FOUNDED IN 1856

RAILWAY AGE

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GENEVA COLLEGE

SEPTEMBER 11, 1948

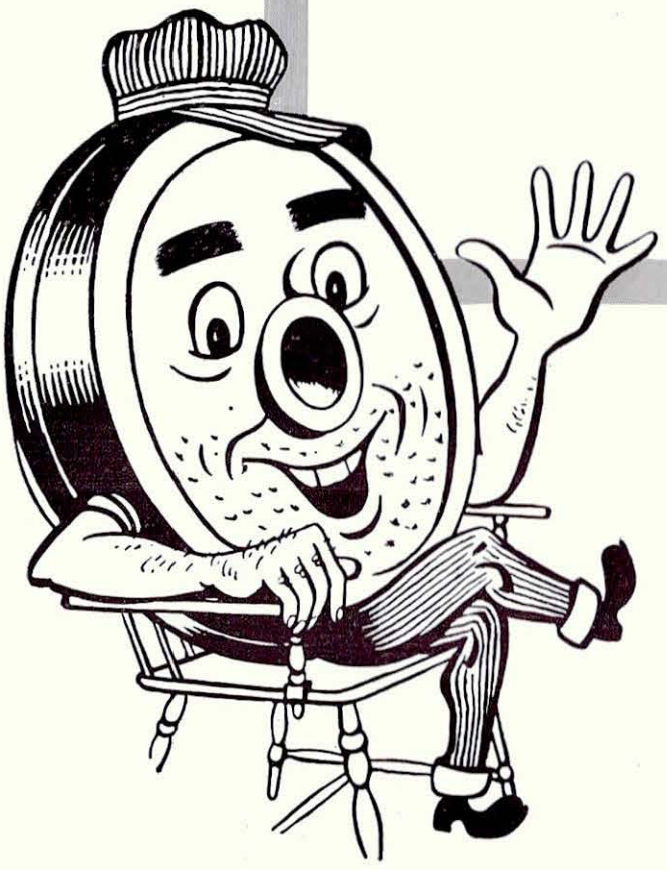
MORE THAN
116,000
CARS
ARE EQUIPPED
WITH...

WINE

Cast Steel
HOPPER
FRAMES

THE WINE RAILWAY APPLIANCE COMPANY • TOLEDO 9, OHIO

"they improved me 5 ways"



REPORTS THE TOUGH GUY

"I'm showing *results* . . . in longer service life, in greater safety, in increased mileage. There are 5 reasons why.

- **"I'm improved in design.**
- **"I'm improved metallurgically.**
- **"I'm improved by better annealing.**
- **"I'm improved by greater chill control.**
- **"I'm improved by more rigid inspection.**

"Don't give *me* the credit. Give a big hand where it belongs — to the member companies of the Association of Manufacturers of Chilled Car Wheels. For every one of them has been supporting and cooperating with the Association's work of maintaining and advancing its code of high manufacturing standards, its research and its inspection-testing program!"

ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

445 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.

American Car & Foundry Co. • Canadian Car & Foundry Co. • Griffin Wheel Co.
Marshall Car & Foundry Co. • New York Car Wheel Co. • Pullman-Standard Car Mfg. Co.
Southern Wheel (American Brake Shoe Co.)

6931

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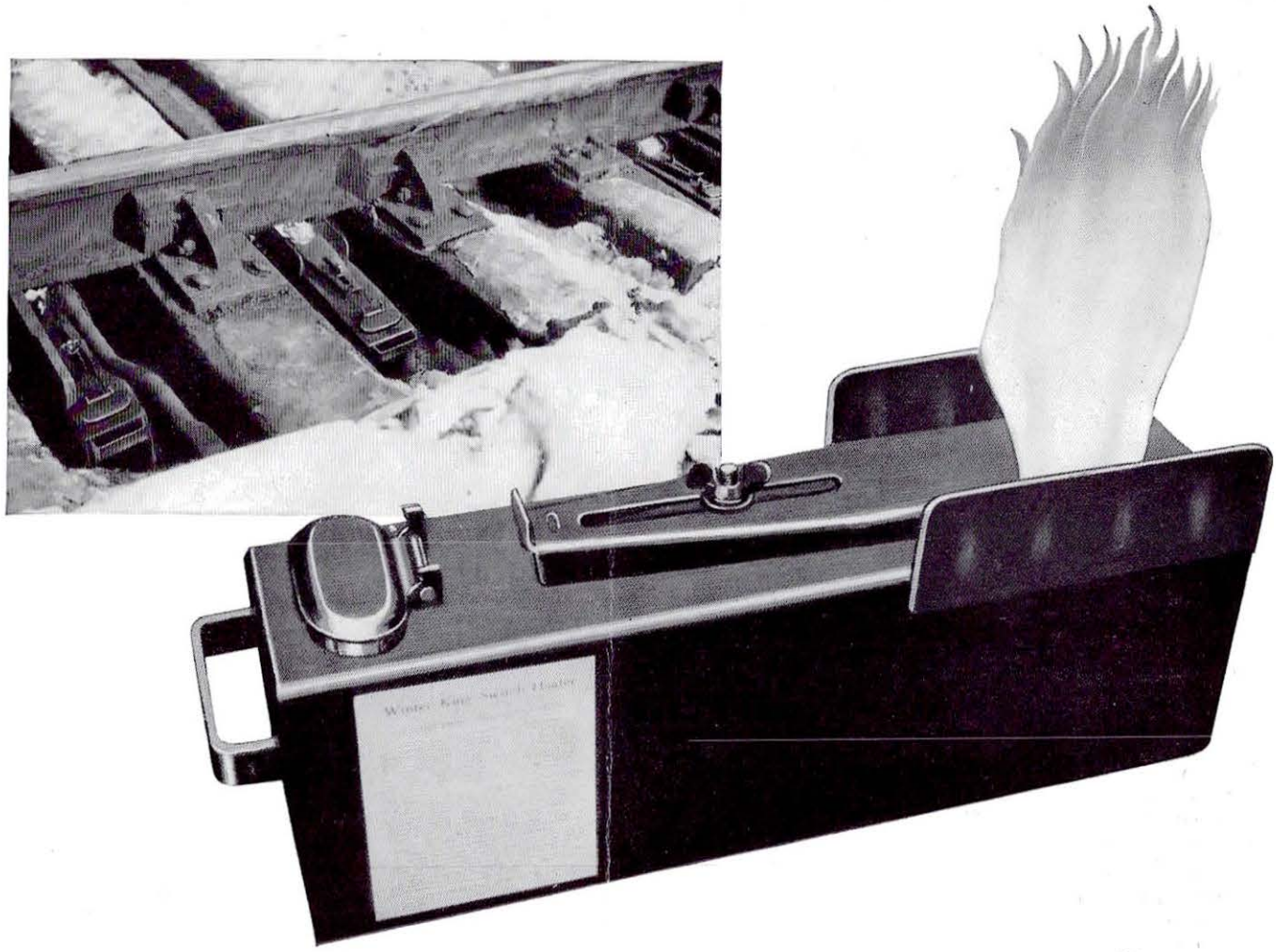


How to Keep a Switch from Freezing Up

We don't like to rush the season . . . but now's the time to be laying in your Winter King Switch Heaters. It's good to have 'em a little ahead of the actual winter snows; then you're *sure*.

These sturdy little Bethlehem heaters really do a job. As the picture shows, they are easily slipped between ties, with the flame end under the rail and switch point. Even in gusty wind, the shielded flame keeps burning, furnishing constant heat. Winter Kings fight snow as it falls. They help eliminate freeze-ups far more effectively than hand methods ever could.

They're economical, too — both in first cost and operation. Using kerosene, each unit holds enough oil for from 9 to 15 hours of burning in storms of average intensity. The size of the flame is regulated by an adjustable cover that slides over the combustion chamber.

With 16½-ft switches, four Winter Kings to a side are usually recommended. One man can take care of a large group and still have time for other duties. Ask for complete details if you aren't already familiar with these heaters. They're an investment in safety.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

Winter King SWITCH HEATERS

BETHLEHEM STEEL

HOW NEW YORK CENTRAL *Overrules a*

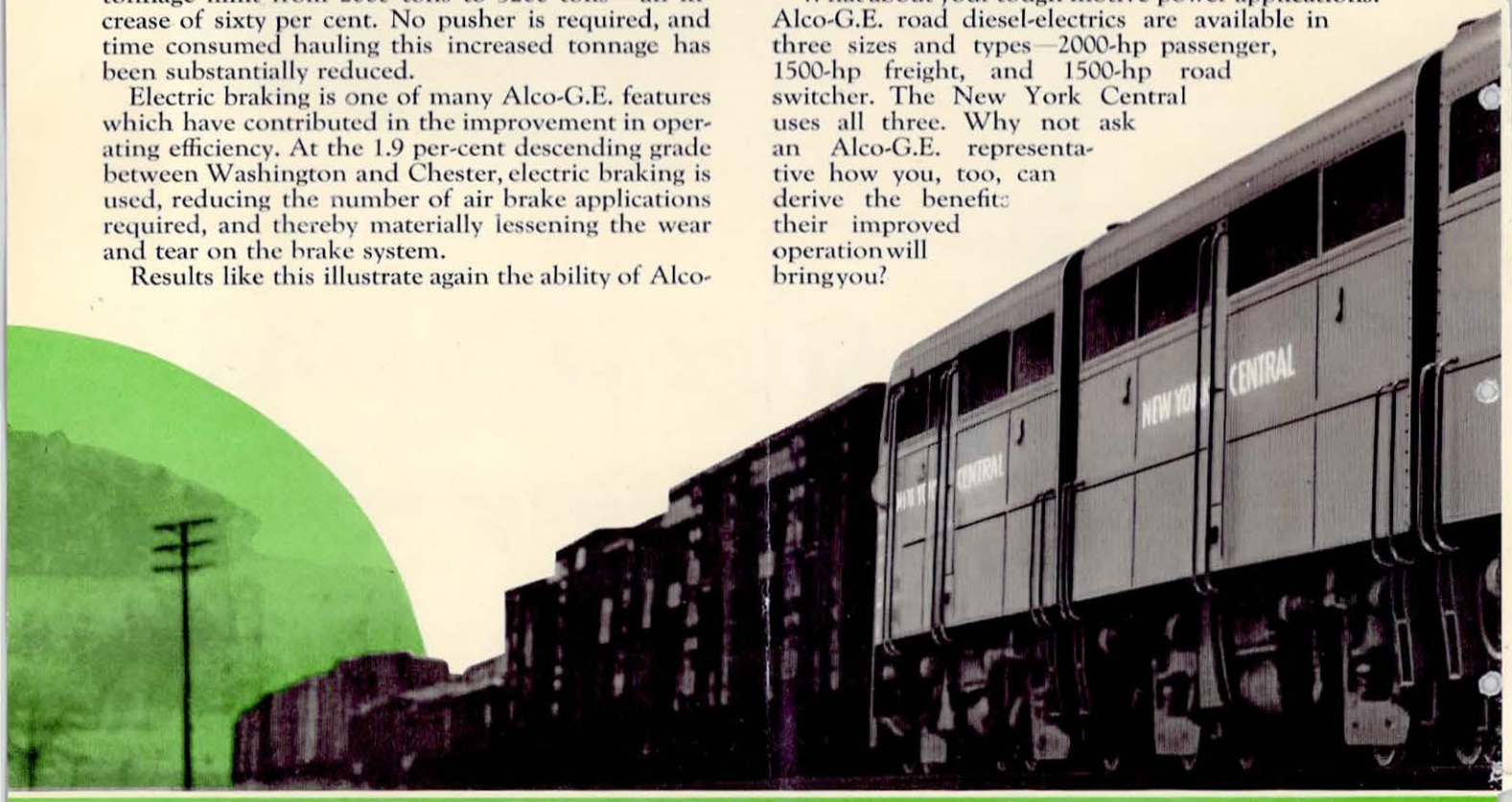
. . . On the Albany Division, Alco-G.E. diesel-electrics boost train tonnage limits sixty per cent!

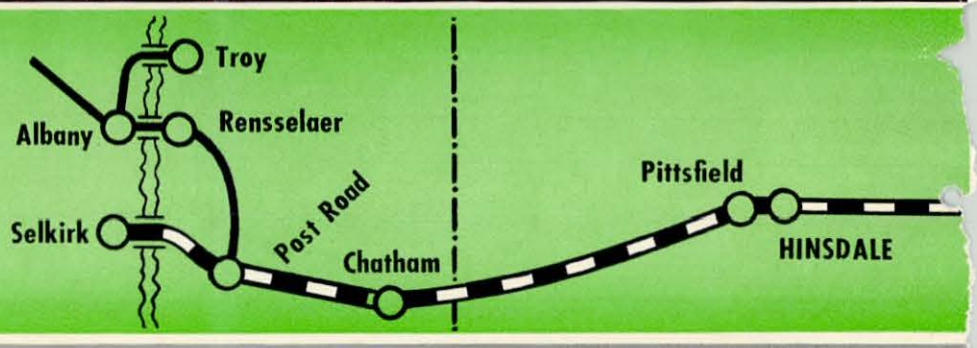
Until recently, freight trains hauled by steam power between Selkirk and West Springfield, were limited to 2000 tons, single-headed, with help required at the 1.6 per-cent Hinsdale grade. Now, three-unit, 4500-hp, Alco-G.E. freight diesel-electrics have raised this tonnage limit from 2000 tons to 3200 tons—an increase of sixty per cent. No pusher is required, and time consumed hauling this increased tonnage has been substantially reduced.

Electric braking is one of many Alco-G.E. features which have contributed in the improvement in operating efficiency. At the 1.9 per-cent descending grade between Washington and Chester, electric braking is used, reducing the number of air brake applications required, and thereby materially lessening the wear and tear on the brake system.

Results like this illustrate again the ability of Alco-G.E. locomotives to haul more ton- and passenger-miles in less time, and at lower cost. With these new locomotives, New York Central's Albany Division is speeding up service to shippers, and strengthening its competitive position.

What about your tough motive-power applications? Alco-G.E. road diesel-electrics are available in three sizes and types—2000-hp passenger, 1500-hp freight, and 1500-hp road switcher. The New York Central uses all three. Why not ask an Alco-G.E. representative how you, too, can derive the benefits their improved operation will bring you?





Alco GE

AMERICAN LOCOMOTIVE

Ruling Grade

Built TO INCREASE YOUR RAILROAD'S EARNING POWER

W. Springfield → To Boston

In Canada Alco GE is MLW GE

and GENERAL ELECTRIC

113-220

...want more iron or steel?

TURN IN MORE SCRAP!

HERE'S WHAT YOU CAN DO TO HELP RELIEVE THE SCRAP SHORTAGE

1. Put some one individual in charge of scrap in all departments of your business and GIVE HIM AUTHORITY TO ACT.

2. Comb the plant and yards for dormant scrap, abandoned equipment, old boilers, pipe, moulds, obsolete dies and parts, material now wasting away which has salvage value.

Survey all plant equipment, particularly idle stand-by or discarded machines, with a view to scrapping all not convertible to useful production.

Consult your scrap dealer for advice on types, grades and sizes.

3. Segregate each class of scrap and supervise its handling to avoid contamination. This will increase its value. Identify, classify and provide separate containers, clearly marked, for each class of scrap material.

Dismantle discarded equipment promptly into its components—electrical, fastenings, lumber, etc.—so that these parts may be utilized or scrapped.

Sort sweepings and miscellaneous waste to recover scrap values.

4. Constant reminders in the form of posters, illustrations of right and wrong methods, pay envelope enclosures, house organ publicity, etc., are potent aids to the scrap recovery program.

EMBLEM OF INCO SERVICE
TRADE MARK

MORE SCRAP—MORE STEEL
Move your scrap to the mills—
Sell it...ship it...move it now!

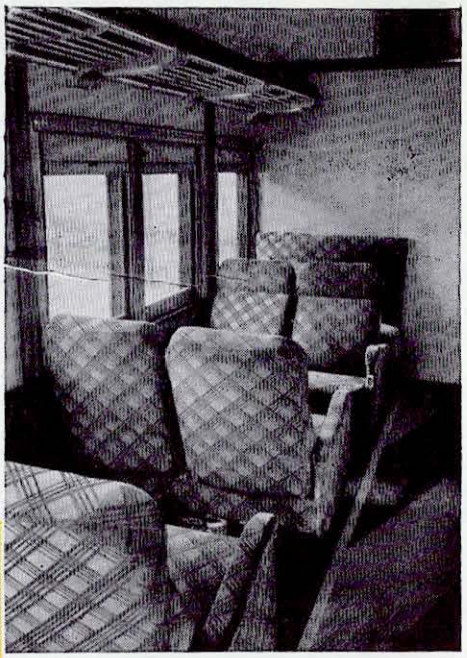
THE INTERNATIONAL NICKEL COMPANY, INC. 67 WALL STREET NEW YORK 5, N. Y.

"Train of Tomorrow" Follows the Swing

to "Sleepy Hollow" *Comfort*

The "Train of Tomorrow" previews a more comfortable future for travelers. Yet the exclusive "Sleepy Hollow" design of modern Heywood-Wakefield seating is already building good will for the progressive railroads which have installed it in their new equipment.

Tailor-made alterations in outward appearance can be arranged to harmonize completely with the design and decor of your new equipment.



GOOD IN 1936

Coaches of the '30's presented a marked improvement in appearance. Yet, even with Heywood-Wakefield seating, they were not quite as comfortable as they looked.

HEYWOOD-WAKEFIELD
EST. 1826
REG. U. S. PAT. OFF

Transportation Seating Division
Gardner, Mass.

BEST TODAY

The General Motors "Train of Tomorrow" is not only revolutionary in appearance. Its Heywood-Wakefield "Sleepy Hollow" seats make it an equally notable advance in comfortable *travel.*

THE ANSWER TO YOUR

HEAVY HAULING PROBLEM

BALDWIN 2000-hp.,

6-MOTOR TRANSFER LOCOMOTIVE

A rugged diesel-electric that is making a fine record for efficiency and economy in heavy transfer service.

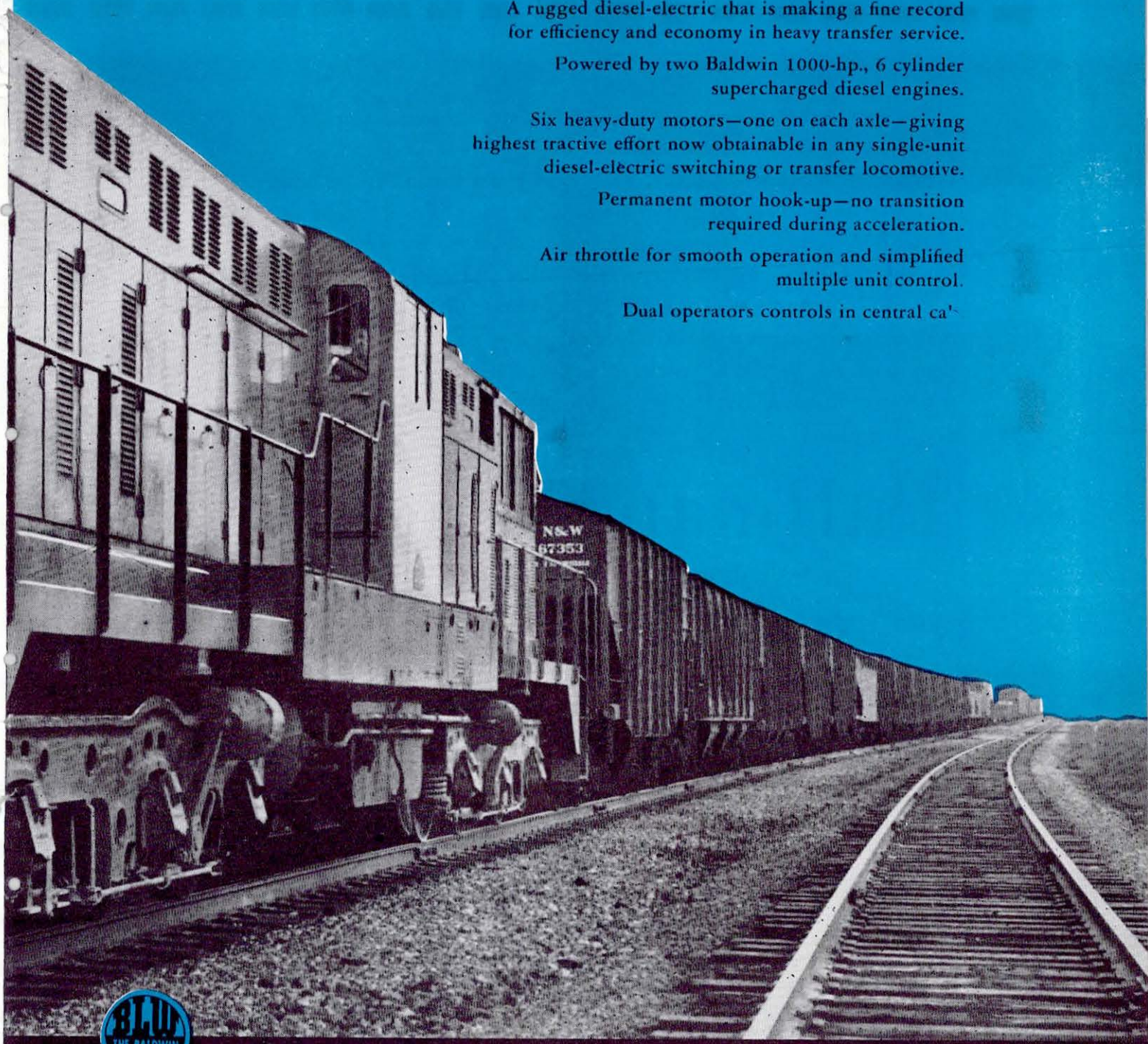
Powered by two Baldwin 1000-hp., 6 cylinder supercharged diesel engines.

Six heavy-duty motors—one on each axle—giving highest tractive effort now obtainable in any single-unit diesel-electric switching or transfer locomotive.

Permanent motor hook-up—no transition required during acceleration.

Air throttle for smooth operation and simplified multiple unit control.

Dual operators controls in central ca'-



BLH THE BALDWIN GROUP

BALDWIN

The Baldwin Locomotive Works, Philadelphia 42, Pa., U. S. A. Offices: Boston, Chicago, Cleveland, Houston, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis, Washington. In Canada: Canadian Locomotive Co., Ltd., Kingston, Ontario.

What's in a

Passenger Car?

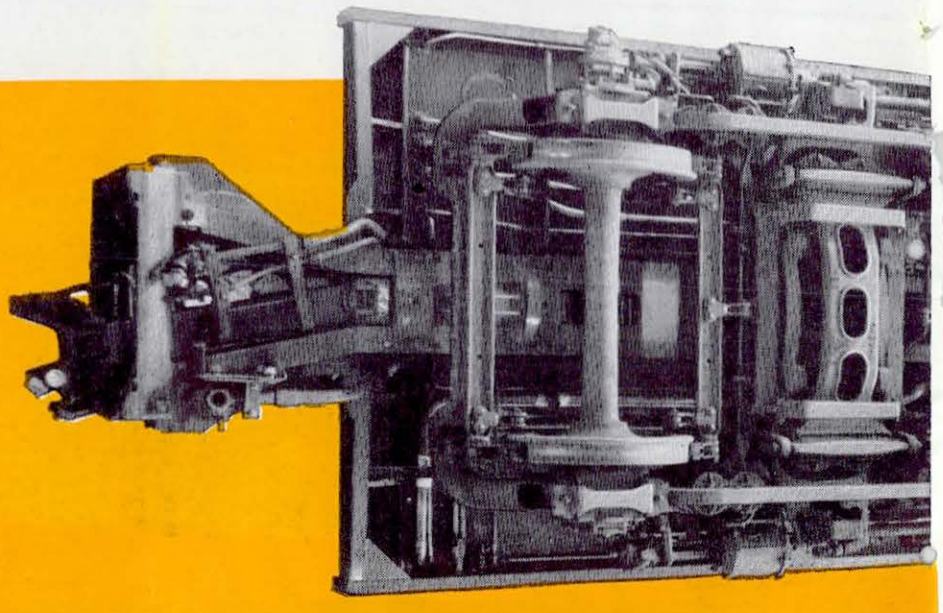
The comforts of home . . . the speed of a streamliner, the safety and strength of steel . . . the charm of luxurious appointments . . . the beauty of modern design . . . all these you will find in passenger cars of today. They contain their own "public utilities," make their own weather. . . . No structure of equal size requires more specialized engineering, or so many varied skills and complex operations to produce. And few cars are alike as to floor plans, color schemes, and specifications. Naturally, designing and building cars of Pullman-Standard quality takes time; yet Pullman-Standard leads in number of cars delivered.

Pullman-Standard

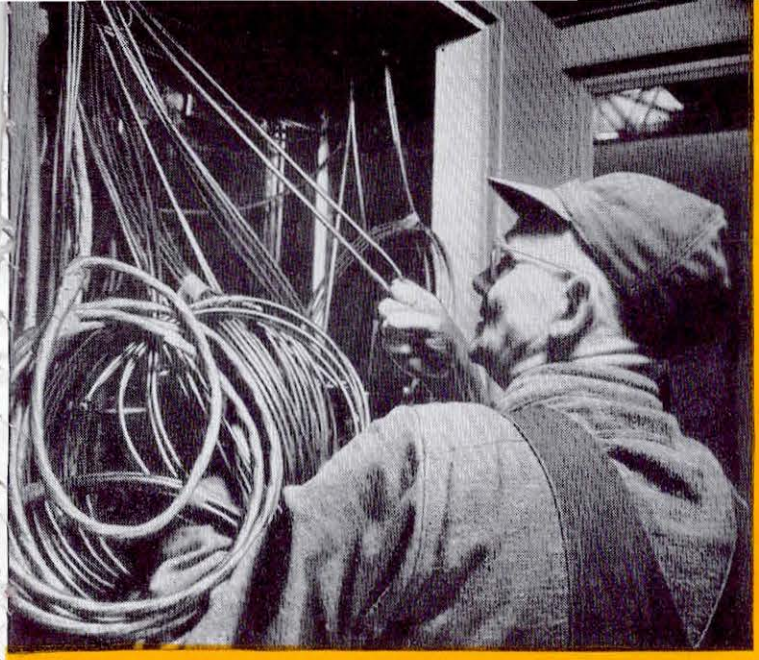
CAR MANUFACTURING COMPANY

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BIRMINGHAM • WORCESTER, MASS.

SAN FRANCISCO SALES REPRESENTATIVE, MARK NOBLE



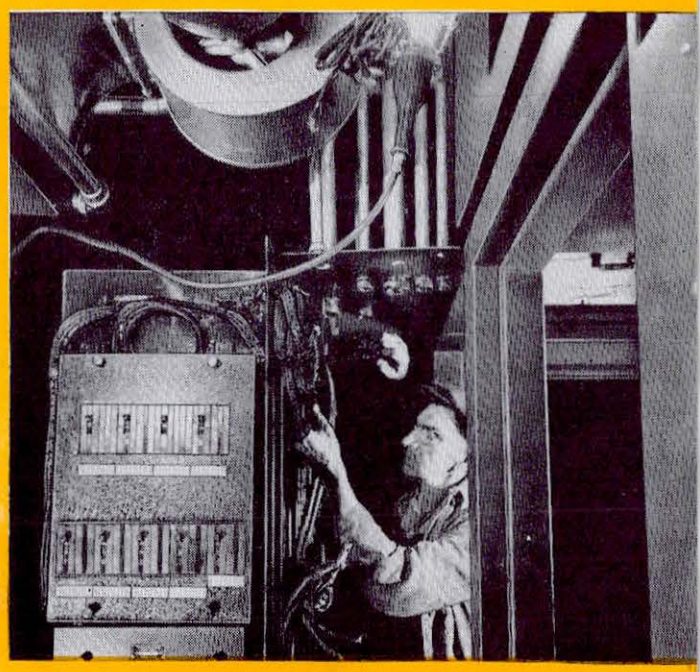
Just the beginning — 85 feet of rugged underframe, riding gear, and complex equipment in the *underside* of a Pullman-Standard sleeping car. Here, safety and riding comfort have their foundation, and the "public utilities" for a traveling community of 22 persons are built in.



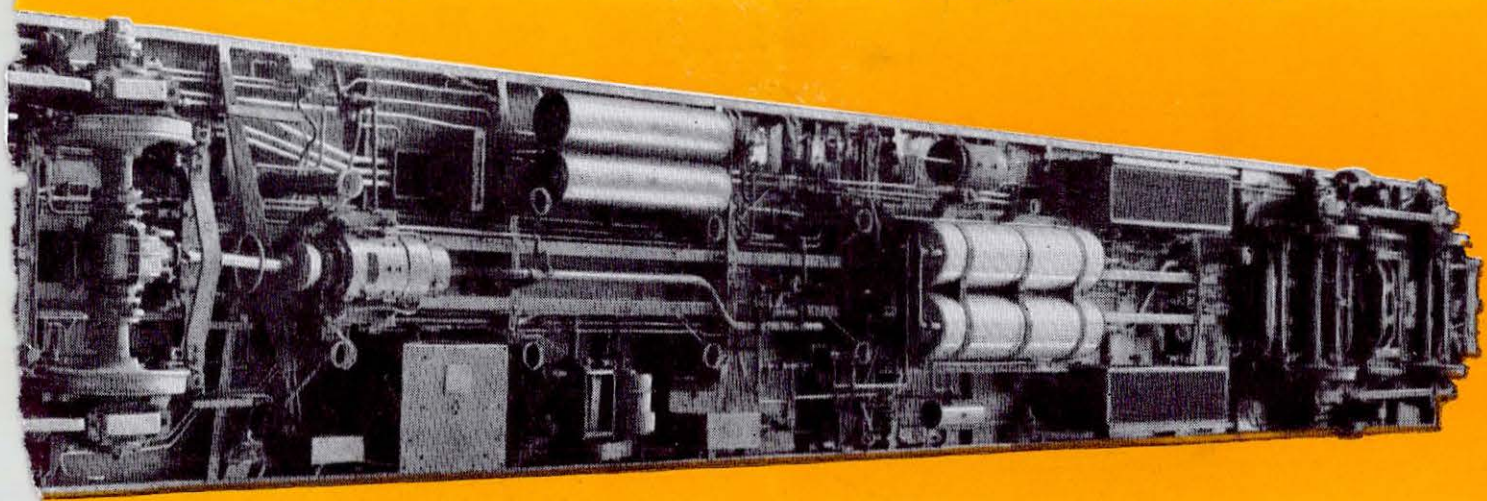
Electricity for lights, fans, pumps, bells, telephones, radios, signals—even cooking, on some diners — requires up to five miles of complicated wiring per car. Imagine the extra work involved in changing wiring diagrams every few cars!

Each passenger car carries an amazing amount of operating equipment which the passenger never sees. Much of this requires hand installation by technical experts; fitting, adjusting and testing by hand... jobs that often vary considerably between car lots.

Expert Pullman-Standard craftsmen in seventy different trades must each perform specialized operations in the construction of a modern passenger car.



Few hotels are air conditioned throughout, but modern "hotels on wheels" *must* be. Here is air conditioning equipment, with its switch cabinet, for a Pullman-Standard sleeper.

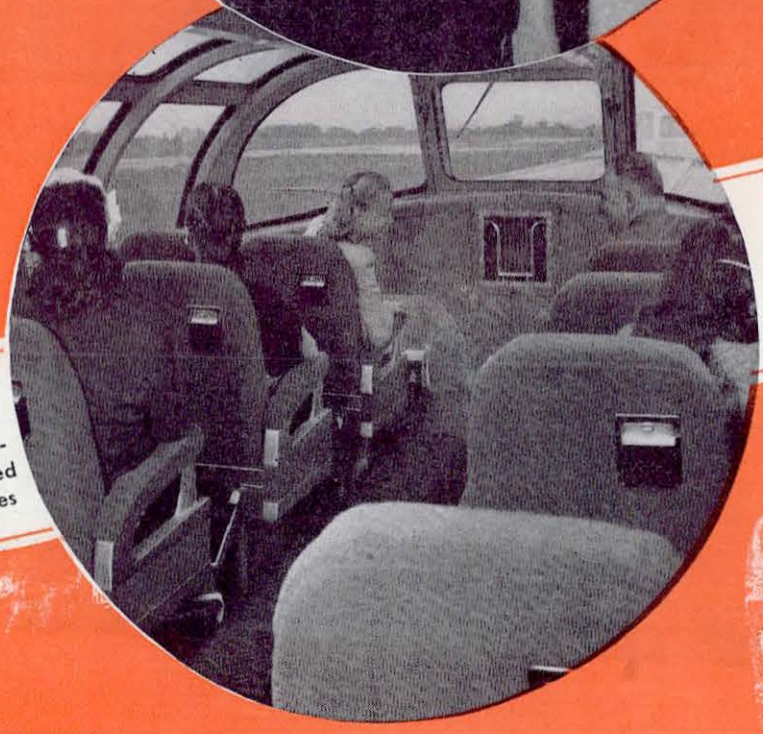


New observation parlor car of advanced design

VAPOR HEATING

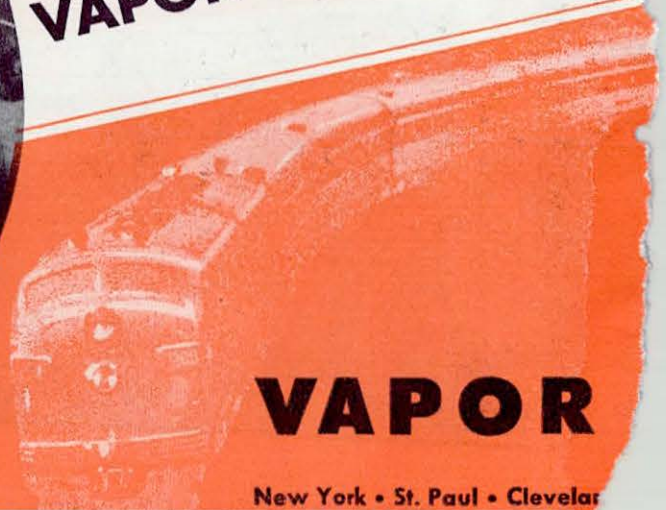
Spacious bedrooms with every convenience for comfortable travel

RADOR CONTROLS



Greater travel enjoyment is provided in today's coaches

VAPOR ENGINEERING



VAPOR

New York • St. Paul • Clevelar

. . AS MODERN AS THE STREAMLINERS

The fleets of new cars coming from the car-builders into your service will, for the first time, enable passengers to enjoy the outstanding comfort provided by Rador controls.

. . PROVIDE "LIVING ROOM" COMFORT

No matter where trains go — no matter how rapidly the weather conditions change, each zone is individually regulated, heated or cooled to meet the most exacting requirements of your passengers.

. FIRST IN TRANSPORTATION HEATING

Intensive research before, during and after the war has strengthened Vapor's leadership in heating systems and controls for railroads, aircraft and other forms of transportation. Our Research backed by our close association with railroad engineering and electrical staffs has resulted in Rador Control and 'Lectronic circuits —the most modern post-war development in transportation temperature comfort.

Vapor RADOR 'LECTRONIC

MODULATES
TEMPERATURES ALWAYS AT THE CONTROL POINT

HEATING CORPORATION

80 EAST JACKSON BLVD., CHICAGO 4, ILLINOIS

St. Louis • Denver • Washington • Philadelphia • San Francisco • Jacksonville, Fla. • Winnipeg • Montreal

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MODERN ATMOSPHERE...

It's more than a matter of styling

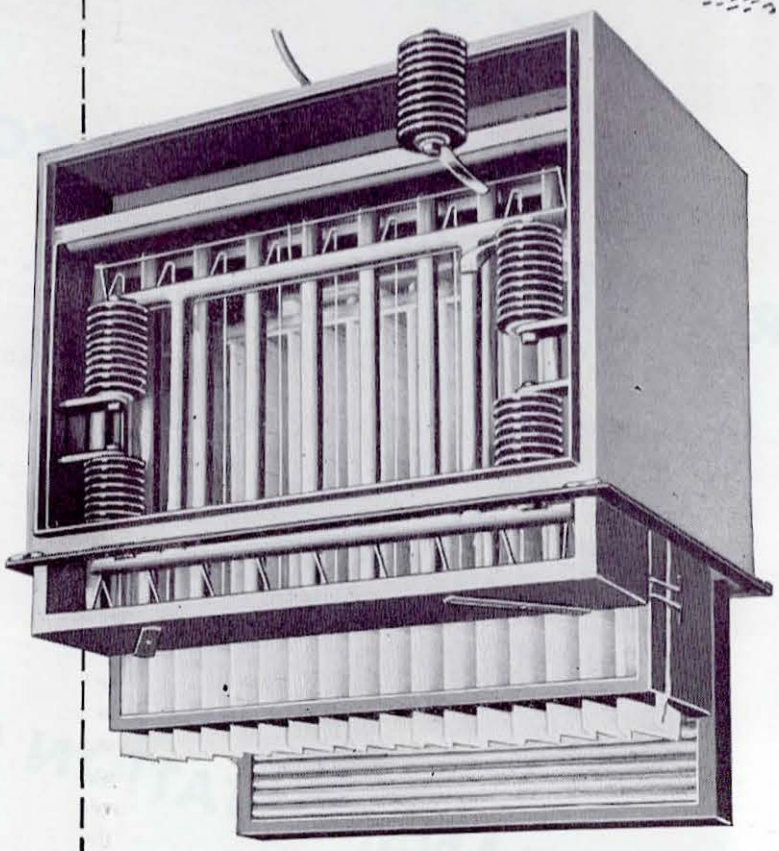
AAF's Modern Electro-Airmat Stops Atmospheric Dust and Smoke

MODERN styling on today's passenger trains adds a pleasing note from appearance standpoint. But a truly modern atmosphere—one of super-clean air—is the modern touch that counts with passengers from a comfort standpoint.

The Electro-Airmat, designed expressly to meet the modern-day needs of railroads, frees the air of atmospheric dust, lint and tobacco smoke . . . does all this with less maintenance, economically and requires less space for installation. Tested rigidly by Bureau of Standards Discoloration Test Method, Electro-Airmat is proved 90% efficient . . . offers advantages found in no other type of air filtering equipment.

Compare this modern electronic filter in every way, feature by feature. You'll select it for greater efficiency, proved economy and excellence of performance. Your request for Bulletin No. 254 will be promptly handled without obligation.

AMERICAN AIR FILTER COMPANY, INC.
111 Central Ave., Louisville 8, Ky.
In Canada: Darling Bros. Ltd., Montreal, P. Q.



- **Cleaning efficiency 10 times greater than mechanical air filters.**
- **Atmospheric dust, lint and tobacco smoke removal—90% efficient.**
- **Simple to maintain—no washing, re-oiling and handling collector plates. Disposable filtering medium is quickly and cheaply replaced and you get new performance.**
- **In case of power failure, Airmat still works as a mechanical filter.**
- **Less weight—less space, than ordinary plate-type precipitators.**

AAF

ELECTRO·AIRMAT
ELECTRONIC PRECIPITATOR

Depend on Daytons

FOR BRIGHT, CHEERFUL LIGHTS!

Provide steady, cheerful lights at a real saving on equipment wear with Dayton V-Belt Car Lighting Drives. These 1-inch belts deliver positive power that reduces wear on batteries by calling for less recharging . . . require less tension because of greater strength, which means reduced strains on shafts and bearings. Weatherproofed and waterproofed, specially patented Dayton 1-inch V-Belts bend easily and do not become stiff in extremely low temperatures.

These Dayton Belts are especially designed for use with improved Dayton Connectors, operating smoothly over even the smallest pulley diameters—and quiet, too, for no metal touches the pulley grooves! It's a simple matter to convert your old style flat belt to a modern Dayton V-Belt Car Lighting Drive.

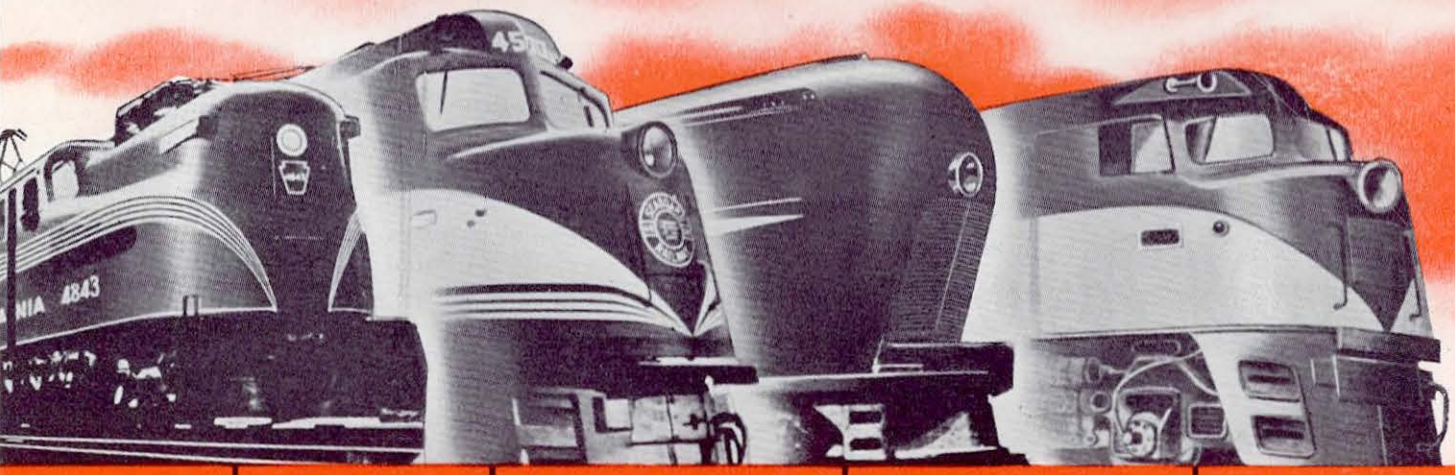
Whether your problem is finding the best drive for new equipment, or modernizing old—our engineers will welcome the opportunity to work with you on better railway power transmission. Just write or call, *Railway Division, Dayton Rubber, Dayton, Ohio.*

Dayton Rubber *V-Belts for Railroads*

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

CAR LIGHTING DRIVES · COMPRESSOR DRIVES · AIR CONDITIONING DRIVES · DIESEL DRIVES

Call 'em what you like . .



ELECTRIC

DIESEL ELECTRIC

STEAM TURBINE ELECTRIC

GAS TURBINE ELECTRIC

YOU CAN BE **SURE**
IF IT'S Westinghouse

. the final drives' Electric

Diesel electric, steam turbine electric, gas turbine electric and conventional electric . . . all four depend upon *electric* transmission and are, in fact, electrified motive power.

And only electric transmission—regardless of the power source—has all of these seven operating benefits:

1. **Constant rail hp over normal operating range of the locomotive.**
2. **Multiplicity of lightly-loaded driving axles, with maximum locomotive weight used for adhesion.**
3. **Exceptionally high drawbar pull in both starting and running.**
4. **Decided increase in train tonnage.**
5. **Easier handling of heavier trains.**
6. **Marked reduction of helper service over ruling grades.**
7. **Electric braking on long, descending grades.**

These advantages of electrification apply to every type of service—switching, passenger or freight—and every type of locomotive utilizing electric transmission.

For more information on the ways you can utilize electrified motive power for your own profit, write, wire or phone your nearest Westinghouse office. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-95139

Westinghouse

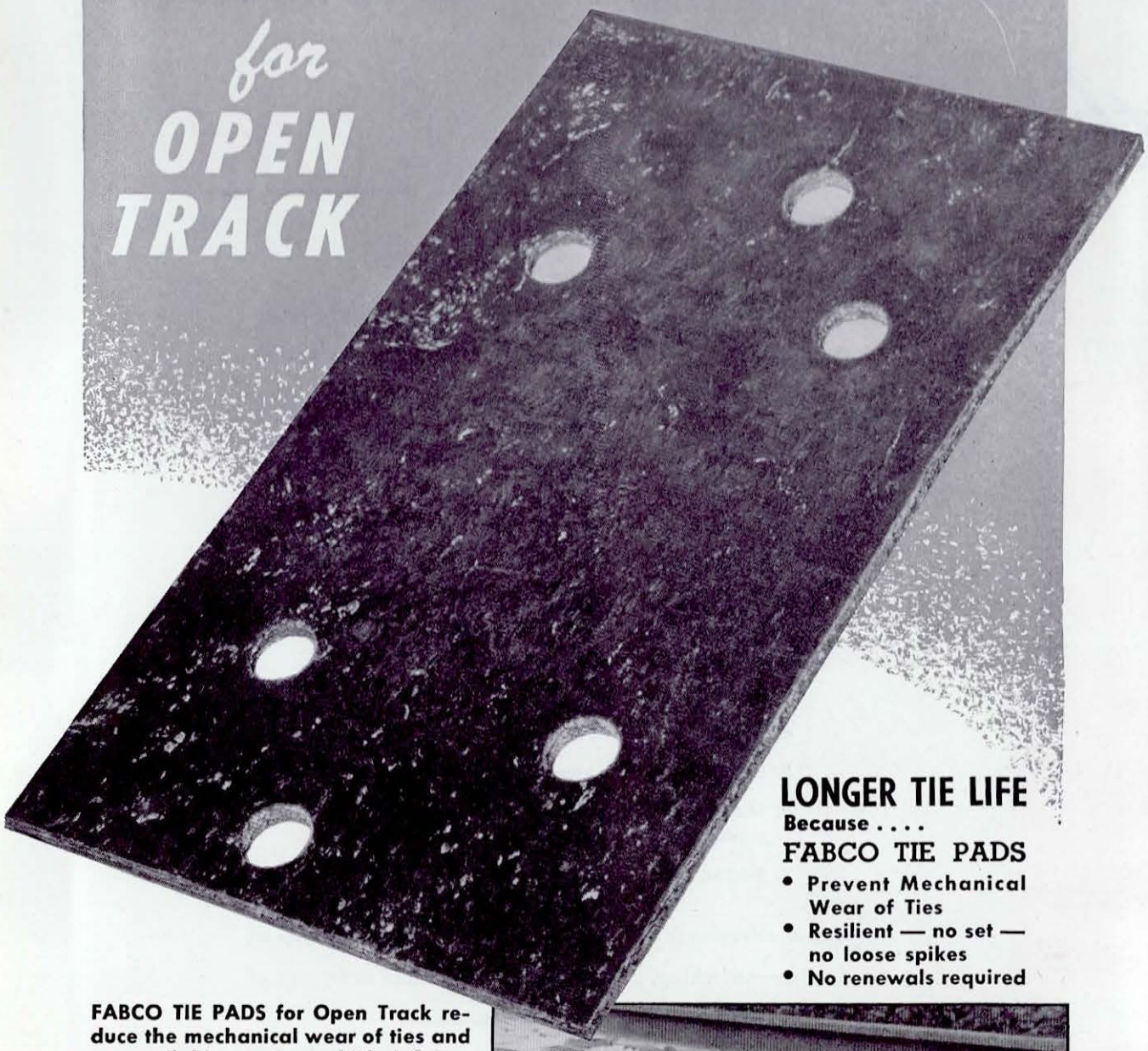
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Partner in Railroad Progress

FABCO TIE PADS

for

OPEN TRACK



LONGER TIE LIFE

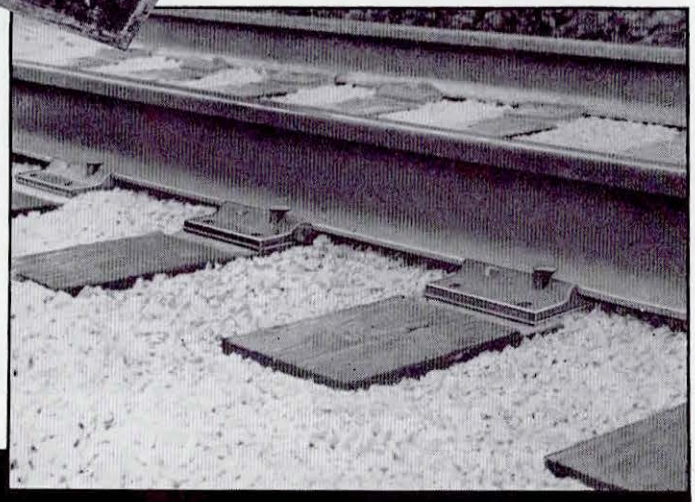
Because . . . .

FABCO TIE PADS

- Prevent Mechanical Wear of Ties
- Resilient — no set — no loose spikes
- No renewals required

FABCO TIE PADS for Open Track reduce the mechanical wear of ties and are available at prices which definitely help reduce the final cost of ties. Stocked in ¼" thickness, in standard tie plate sizes: 7¾" x 12", 7¾" x 13", 7¾" x 14". Other sizes on special order. Withstands extremes of temperature, moisture, brine, mildew, sand . . . and spikes do not have to be driven down a second and third time.

Made by the Makers of Fabreeka



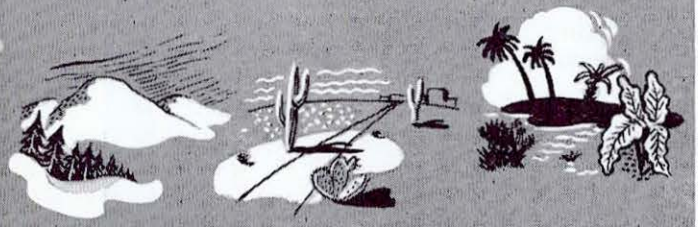
FABREEKA PRODUCTS COMPANY, INCORPORATED

222 SUMMER STREET BOSTON 10, MASS.

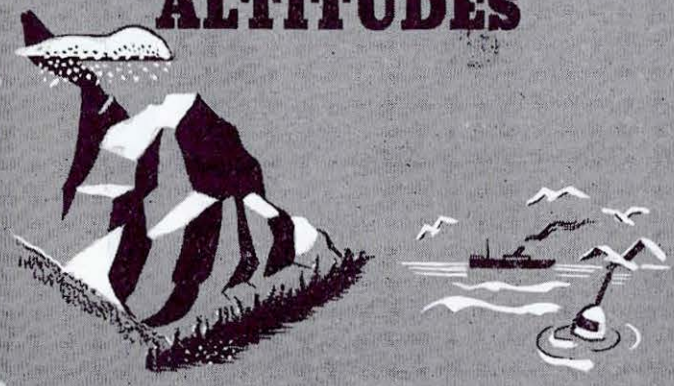
EDWARDS DOUBLE GLAZED SASH FOR CONSTANT, BRILLIANT VISIBILITY

IN ALL SEASONS

CLIMATES



ALTITUDES

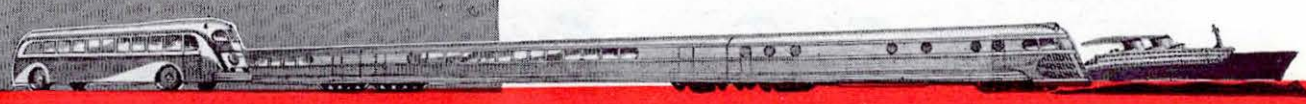


In addition to new installations, it is extremely practicable and economical to replace old windows with Edwards Double Glazed Units. Plan now to modernize your equipment with Edwards Sash. For complete information, write:

THE O. M. EDWARDS CO., INC.
Syracuse 4, New York

In Canada:
O. M. EDWARDS CO. OF CANADA LIMITED
Offices and Plant
4000 NAMUR ST., MONTREAL 16

EDWARDS SASH
THE EYES OF TRANSPORTATION



SASH FOR EVERY TYPE OF TRANSPORTATION — ON LAND, ON THE SEAS, IN THE AIR

NEW PASSENGER CARS on the Minneapolis & St. Louis Railway

As another big step in constant improvement of equipment and service, six new streamlined, air-conditioned passenger coaches have just been placed in operation on Minnesota, South Dakota and Iowa lines of

THE MINNEAPOLIS & ST. LOUIS RAILWAY

These new cars, of stainless steel and identical modern design, were built for the M. & St. L. at the Philadelphia plant of the Budd Company. Each cost $100,000, is 85 feet long and seats 64 passengers.

The coaches are separate units, permitting operation in standard M. & St. L. trains, and each has its individual Diesel oil burning unit, to provide air-conditioning, light, heat and hot water.

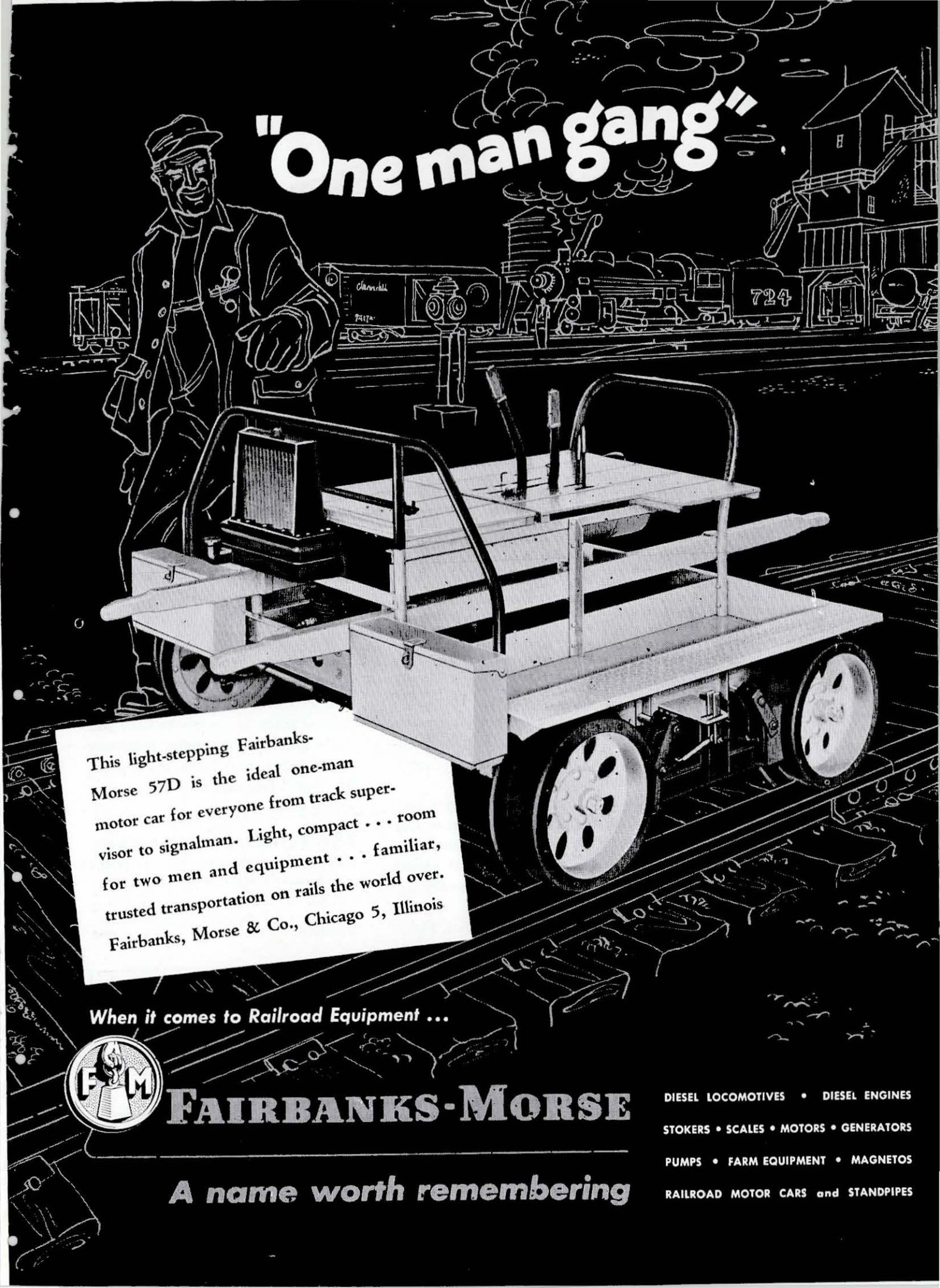
SYMBOLS OF PROGRESS

Addition of these new cars to fleets of the M. & St. L. not only improves its service to midwest travelers but also symbolizes further important progress in the railway's system-wide modernization of equipment and facilities. In the past ten years, the M. & St. L. has been transformed into an efficient, modern railroad by purchase of more than 40 Diesel locomotives and 4,000 new freight cars and extensive rebuilding of tracks, bridges, yards and other properties.

The Minneapolis & St. Louis *Railway*

TRAFFIC OFFICES IN 36 KEY CITIES

The Peoria Gateway Line



This light-stepping Fairbanks-Morse 57D is the ideal one-man motor car for everyone from track supervisor to signalman. Light, compact . . . room for two men and equipment . . . familiar, trusted transportation on rails the world over. Fairbanks, Morse & Co., Chicago 5, Illinois

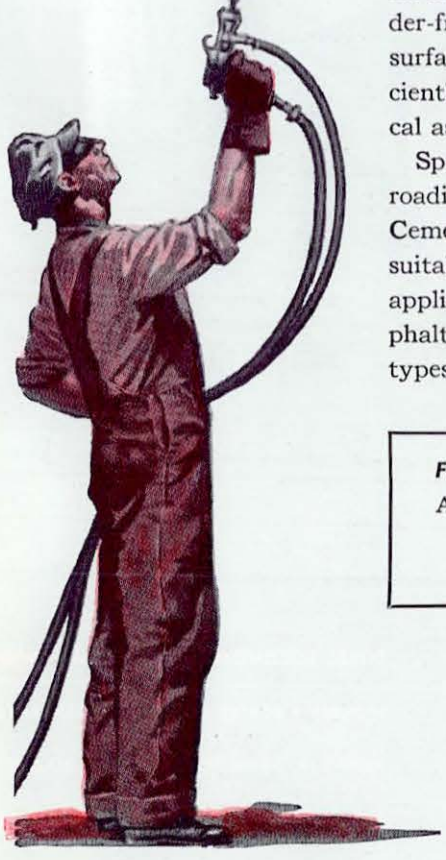
When it comes to Railroad Equipment ...

FAIRBANKS-MORSE

A name worth remembering

DIESEL LOCOMOTIVES • DIESEL ENGINES
STOKERS • SCALES • MOTORS • GENERATORS
PUMPS • FARM EQUIPMENT • MAGNETOS
RAILROAD MOTOR CARS and STANDPIPES

FOUNTAIN OF YOUTH FOR ROLLING STOCK



Flying gravel, seeping moisture and cinder-laden wind can make freight cars grow old fast.

Protect your rolling stock against these hazards with tough, quick-drying Flintkote Car Cements. Couplers, metal ends, slope sheets, trucks, under-frames . . . any vulnerable metal surfaces . . . can be quickly and efficiently protected with these economical asphalt-base compounds.

Specially formulated to meet railroading requirements, Flintkote Car Cements are available in consistencies suitable for spray, brush or trowel application. Or, you can specify asphaltic emulsions of a wide range of types, fibrated or non-fibrated. Flintkote Railroad Emulsions are "tops" in withstanding weather and severe exposures in the railway field.

More than forty years of research and successful experience are behind the manufacture of Flintkote Railroad Products. Our technical specialists are ready to cooperate with you in the solution of individual problems. Write today, and learn more about Flintkote's fountain of youth for your rolling stock.

THE FLINTKOTE COMPANY
INDUSTRIAL PRODUCTS DIVISION
30 Rockefeller Plaza, New York 20, N.Y.

ATLANTA • BOSTON • CHICAGO HEIGHTS
DETROIT • LOS ANGELES • NEW ORLEANS
WASHINGTON • TORONTO • MONTREAL

FLINTKOTE MAKES A COMPLETE LINE OF SPECIALIZED RAILROAD PRODUCTS

Asphalt Protective Coatings . . . Car Cements . . . Insulation Coatings . . . Cold-Laid Mastic Flooring Emulsions . . . Building Materials . . . Materials for Waterproofing and Dampproofing.

FLINTKOTE

Products for Industry

FLINTKOTE INDUSTRIAL PRODUCTS

The Third Lot— 22 More 2-8-4's for the L & N

One of a previous lot of these 2-8-4's for the L & N

to be COMMONWEALTH *Equipped*

The first two lots of these modern, powerful, steam locomotives for freight service, built in 1942 and 1944, are equipped with COMMONWEALTH locomotive beds, water-bottom tender frames, engine trucks, and trailer trucks.

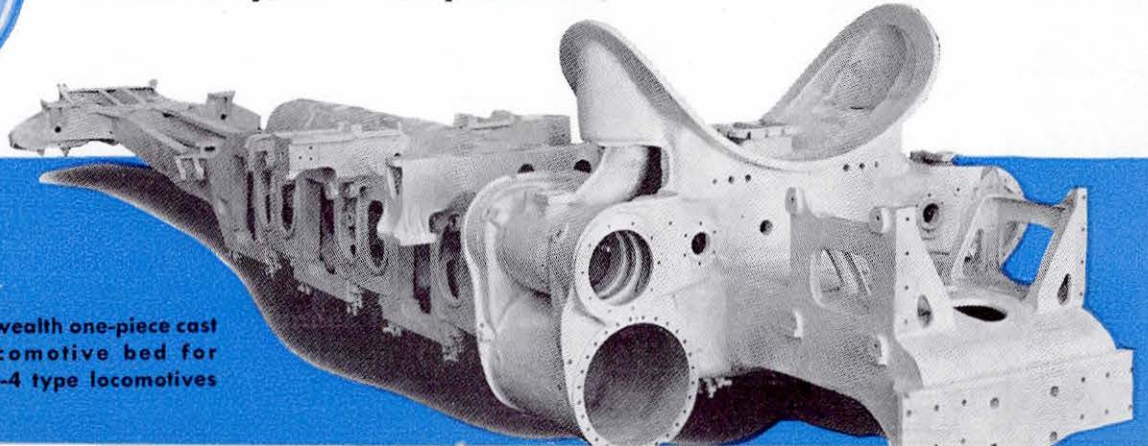
In addition to the above devices, the third lot, just ordered, will be further improved and modernized with latest design COMMONWEALTH 6-wheel straight equalizer type tender trucks and BOXPOK driving and trailer wheels.

It is significant that the third lot of these locomotives for the L & N Railroad *will be completely equipped* with COMMONWEALTH cast steel devices.

For lowest operating costs and highest availability, specify COMMONWEALTH products.

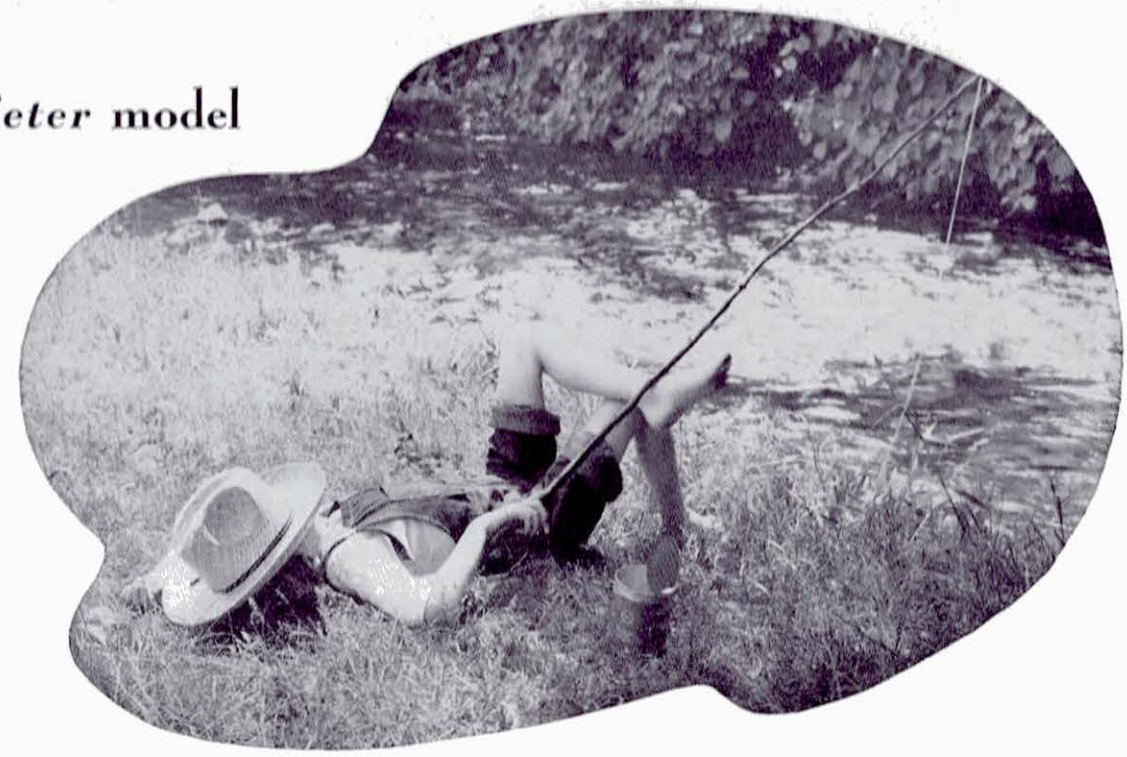
GENERAL STEEL CASTINGS

Granite City, Ill. • Eddystone, Pa.



Commonwealth one-piece cast steel locomotive bed for L & N 2-8-4 type locomotives

this *quieter* model

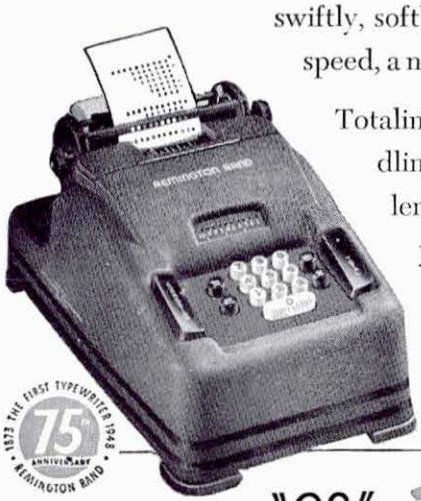


is fast in action!

You'll relax . . . and ease through *more* work with the quieter "93" electric adding machine. You'll enjoy cushioned power . . . almost makes you think your office is by the side of a rippling stream. Tension is lessened, even when the cry is "Rush, rush!"

And work flows rapidly, thanks to streamlined action. With longer motor bars and the famous 10-key touch control keyboard, you add, subtract, multiply . . . swiftly, softly, smoothly. Here's new ease, new speed, a new thrill in figure work.

Totaling invoices, preparing payrolls, handling statistics or whatever your problem, our local representative will show you how to finish faster, with the new "93". Phone him today.



CUSHIONED POWER:

Built-in steel cushions reduce noise and vibration, lessen strain, insure smoother operation and longer life.

STREAMLINED ACTION:

Longer, light-touch motor bars and compact 10-key keyboard eliminate finger groping, speed every operation. Completely electrified.

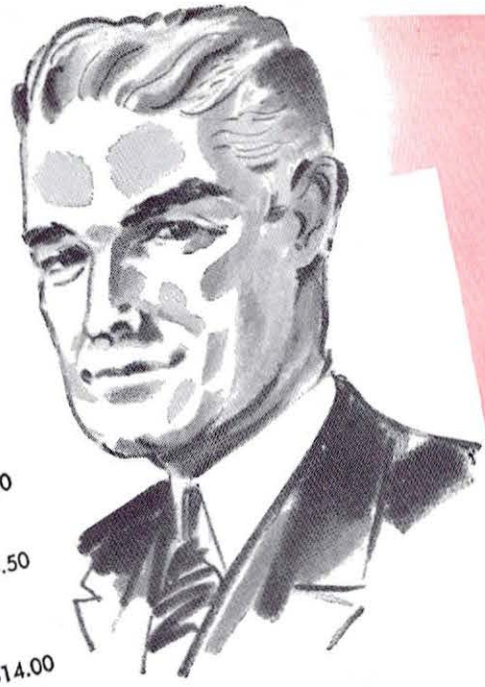
FREE BOOKLET:

Write today for "Ripples of Sound" to Remington Rand, Dept. RA-9, 315 Fourth Avenue, New York 10, N. Y.

the new "93" **Remington Rand** *electric adding machine*

We changed from steam to an **Industrial Brownhoist Diesel Crane**

It paid for itself in four years!



Here are the figures to prove it:

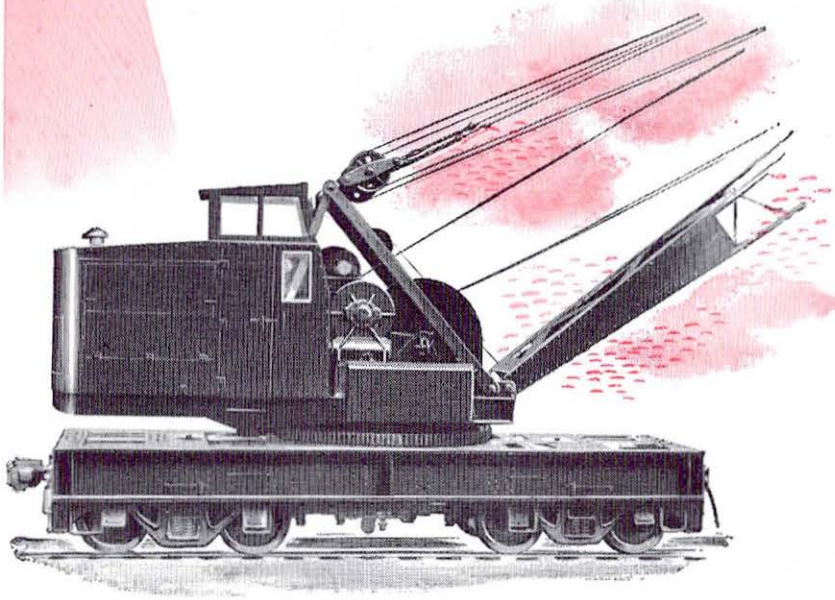
SAVINGS IN FUEL PER DAY $13.40
(Based on 1½ tons coal per day at $10 a ton, against 16 gallons of fuel oil at 10¢ a gallon.)

SAVINGS IN LABOR PER DAY $15.50
(Unproductive firing, banking, cleaning time — 2 hours for engineer at $1.75 per hour, and 8 hours fireman, at $1.50 per hour.)

TOTAL FUEL AND LABOR SAVINGS PER YEAR.. $7,514.00

AND WE INCREASED OPERATING TIME BY 65 DAYS A YEAR!

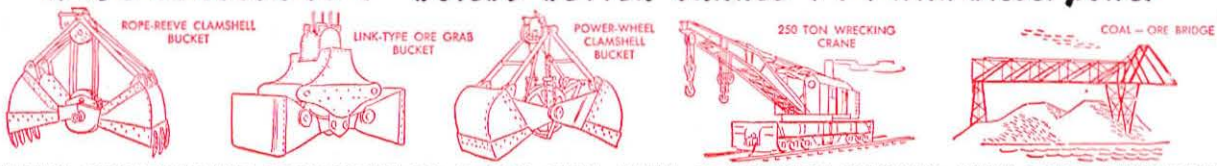
It takes two hours a day on the average for firing up, banking, taking coal and water, boiler washouts, etc. That figures to 10 hours a week, 520 hours a year, or 65 extra days of productive crane time each year.



BESIDES THESE IMPORTANT EXTRAS:

Safer, cleaner operation; greater production and less operator fatigue because of air operated controls; reduced maintenance time, about one-half that of steam, and elimination of smoke nuisance and fire hazard. Write today for complete information.

BROWNHOIST BUILDS BETTER CRANES . . . with Diesel power



INDUSTRIAL BROWNHOIST CORPORATION • BAY CITY, MICH. • **DISTRICT OFFICES:** NEW YORK, PHILADELPHIA, CLEVELAND, CHICAGO • **AGENCIES:** DETROIT, BIRMINGHAM, HOUSTON, LOS ANGELES, PORTLAND, SAN FRANCISCO, SEATTLE, SPOKANE, CANADIAN BROWNHOIST LTD., MONTREAL, QUEBEC.

Count on this speedy, accurate
Underwood Sundstrand
for every figuring need.

Neat, simple, and streamlined, this new Underwood Sundstrand Adding-figuring Machine combines high speed and accuracy with *versatility.*

Note, there are only 10 numeral keys. *Yet, this Underwood Sundstrand machine will add, subtract, multiply, and divide.*

Operators learn this tidy, compact keyboard in a matter of minutes. Their fingers develop a "touch method" that requires no prompting. Eyes are kept on work sheets. Tiring head swinging is thus eliminated, and work proceeds smoothly . . . without hesitancy or delay.

You'll like the quiet, easy action of this precision-built machine, too. Fingers ripple naturally over the keys . . . setting up numerals . . . producing accurate totals, subtotals, and credit balances.

You'll also like the pleasing gray, non-glare finish of this Underwood Sundstrand. Still another feature is the new, accurate cutting-knife that enables you to zip off the tape without damaging your figures.

Find out more about the new Underwood Sundstrand Adding-figuring Machines. Made in sizes and capacities for every business. Call your Underwood Representative for a demonstration *today.*

UNDERWOOD

© 1948

Underwood Corporation

Adding Machines . . . Accounting Machines . . . Typewriters . . .
Carbon Paper . . . Ribbons and other Supplies

One Park Avenue — New York 16, N. Y.

Underwood Limited, 135 Victoria Street, Toronto 1, Canada

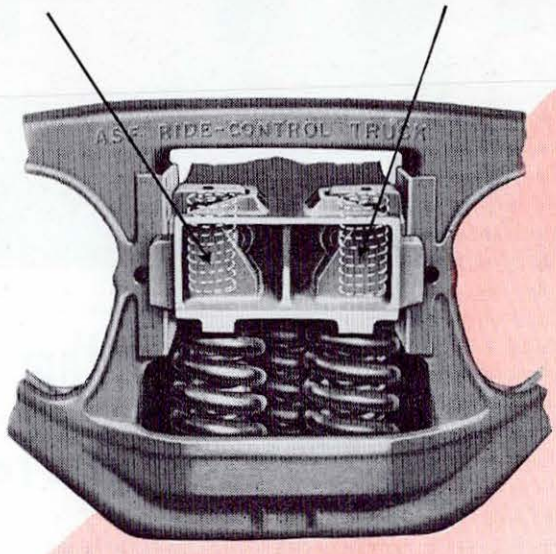
Sales and Service Everywhere

Built to BEAT high maintenance!

FREEDOM FROM FRICTION-SPRING TROUBLES

Friction Springs in the A.S.F. Ride-Control Truck *can't* suffer from flexing fatigue. Load and height remain *virtually constant,* regardless of the service.

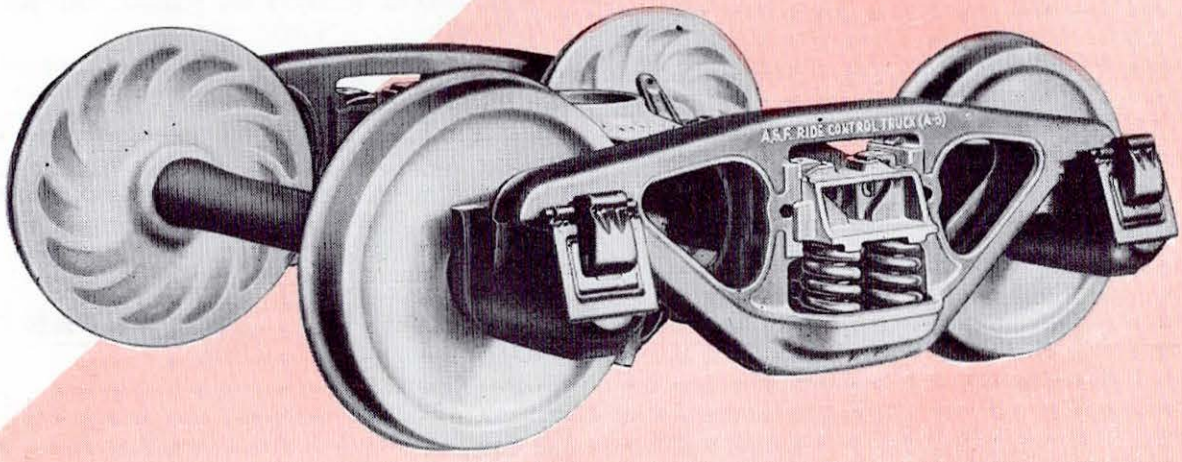
This static loading is *easy on springs.* And it does a better job! Constant, *uniform* friction control protects roadbed, car, and contents.



A·S·F *Ride-Control* TRUCK

NO SPRING PLATES • NO SPRING PLANKS

LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL



AMERICAN STEEL FOUNDRIES

MINT-MARK OF ◯ FINE CAST STEEL

Adlake Breather Windows

for New Car Program

THE MISSOURI PACIFIC RAILROAD has specified ADLAKE Breather Windows in all new sleepers, dormitory-coaches, dining-lounge and lounge-grill coaches now being built as part of the road's expansion and modernization program. Like practically all the other major U. S. railroads, Missouri Pacific demands windows that conform to the highest standards of modern design and workmanship, ADLAKE windows. ADLAKE cable curtains are also used for easy and smooth operation combined with attractive appearance and low cost of maintenance.

LET YOUR PASSENGERS SEE THE SCENERY YOU ADVERTISE. With ADLAKE double-glazed breather windows, each passenger has an unobstructed view of passing scenery. The "breather" permits air between the two panes of glass to adjust quickly to changes in temperature, altitude and humidity, hence no dehydrating compound to be constantly replaced. The windows are always clear—that's why cars with ADLAKE windows are *popular* with passengers.

And, you can count on other ADLAKE specialties such as diaphragms, vestibule curtains, luggage racks, hardware, etc. for effective service, pleasing appearance and low upkeep. We'll gladly tell you about any ADLAKE product if you'll drop us a line. Address 1109 North Michigan, Elkhart, Indiana.

Adlake TRADE MARK

THE Adams & Westlake COMPANY

Established 1857 • ELKHART, INDIANA • New York • Chicago

Manufacturers of Adlake Specialties and Equipment for the Railroad Industry

Only GOULD Has It!

Gould uses the Metalloscope to photograph high magnifications of the structure of cast lead connectors, parts and grid frames.

A modern research laboratory with pilot manufacturing plant where advance-design batteries are constantly created—and proved before production.

The Metalloscope, a combination high-powered microscope and camera, is helping Gould scientists find the answers to age-old lead casting problems. With it, the complex crystalline structure of lead castings has become an open book. As a result, information rapidly becoming available points the way to even stronger, electrically more efficient grid frames, posts, straps and connectors. For better batteries always, choose GOULD—FOR FIFTY YEARS THE CHOICE OF ENGINEERS.

The Gould Kathanode for Air Conditioning

—America's First Triple Insulation Battery!

GOULD

STORAGE BATTERY CORPORATION

Including the Storage Battery Division of Philco Corporation

TRENTON 7, NEW JERSEY

Always Use Gould Automobile and Truck Batteries

ASSOCIATION OF AMERICAN RAILROADS
TRANSPORTATION BUILDING
WASHINGTON 6, D. C.

WILLIAM T. FARICY
PRESIDENT

September 1, 1948

To the PRESS and RADIO:

Subject: Shipper-Railroad Cooperation

When the customers of an industry organize themselves to help that industry produce more efficiently, that's news. When they keep it up for 25 years, it may cease to be news, but it's still something special and important.

That's what has happened in the railroad business. Twenty-five years ago, the shipper-customers of the railroads began their organized cooperation in the more efficient utilization of freight cars--which, after all, spend about as much time in the hands of shippers, being loaded and unloaded, as they spend in the hands of the railroads. This cooperation is carried on, to the mutual advantage of shippers and carriers, through 13 regional Shippers Advisory Boards, formed between 1923 and 1926, and a National Association of Shippers Advisory Boards, formed in 1937 to deal with questions broader than the territory of a regional board.

This national association and its 13 regional boards proved themselves indispensable in the great emergency of the Second World War. It was with their aid, and that of the nearly 800 local Car Efficiency Committees which they organized, and the individual help of 25,000 shipper-members, that the railroads were enabled to turn in a transportation job of which it has been well said that nowhere in the whole world was the military might of America diminished, or its striking force lessened, by any failure of rail transportation here at home. In the years since the war, the same sort of organized cooperation has been of immense help in the successful movement of the heaviest peacetime traffic ever known.

The relationship between the railroad industry and those shippers who are helping themselves by helping in the more efficient production of transportation is simple. The voting membership of the boards is made up of shippers. These shippers pay their own expenses, both in the preparation of the information which is the basis of the boards' quarterly forecasts of car requirements, and also in attending the meetings at which shippers deal directly with representatives of the railroads on transportation questions. The cost of clerical help, stationery, and the like for the boards' operations is borne by the Car Service Division of the Association of American Railroads.

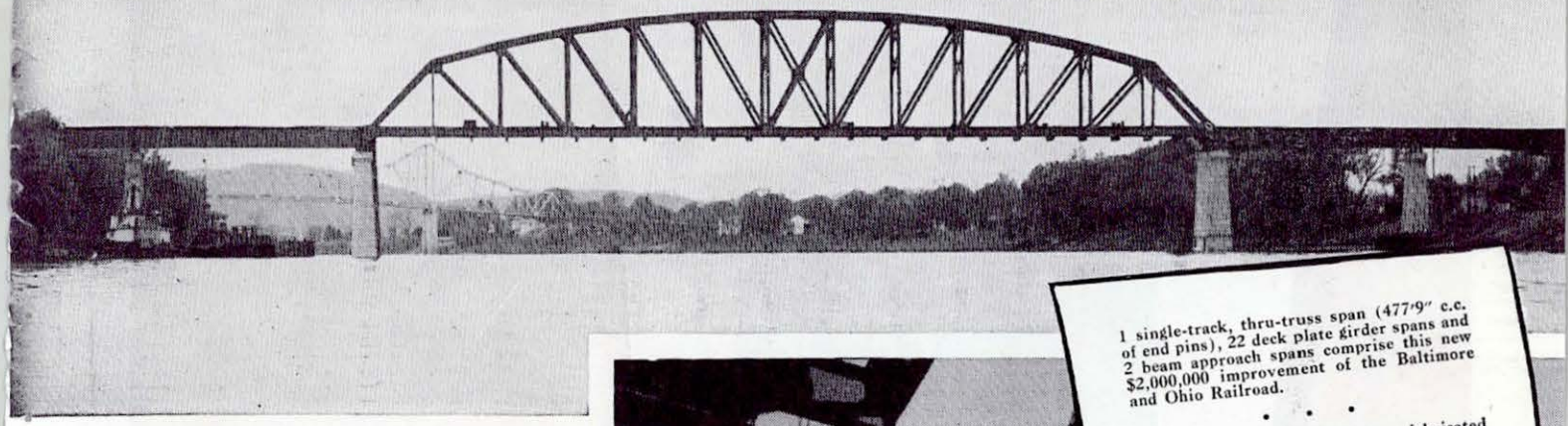
There are few, if any, industry-customer relationships which have endured so long, or accomplished so much, as this organized cooperation between carriers and their customers.

Sincerely,

William T. Faricy

This letter is appearing in EDITOR & PUBLISHER, NATIONAL PUBLISHER, PUBLISHERS AUXILIARY, AMERICAN PRESS, AND BROADCASTING MAGAZINE.

NEW BRIDGE BOOSTS PAYLOAD



1 single-track, thru-truss span (477'9" c.c. of end pins), 22 deck plate girder spans and 2 beam approach spans comprise this new $2,000,000 improvement of the Baltimore and Ohio Railroad.

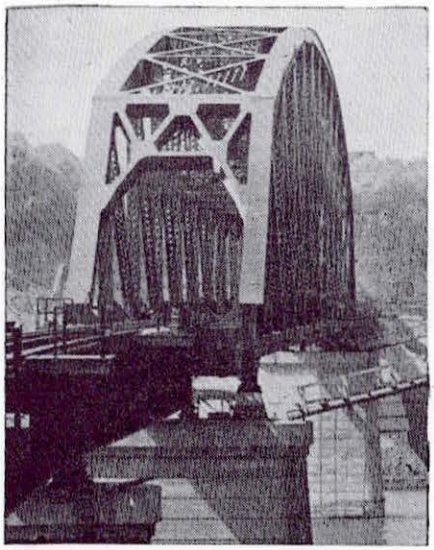
• • •

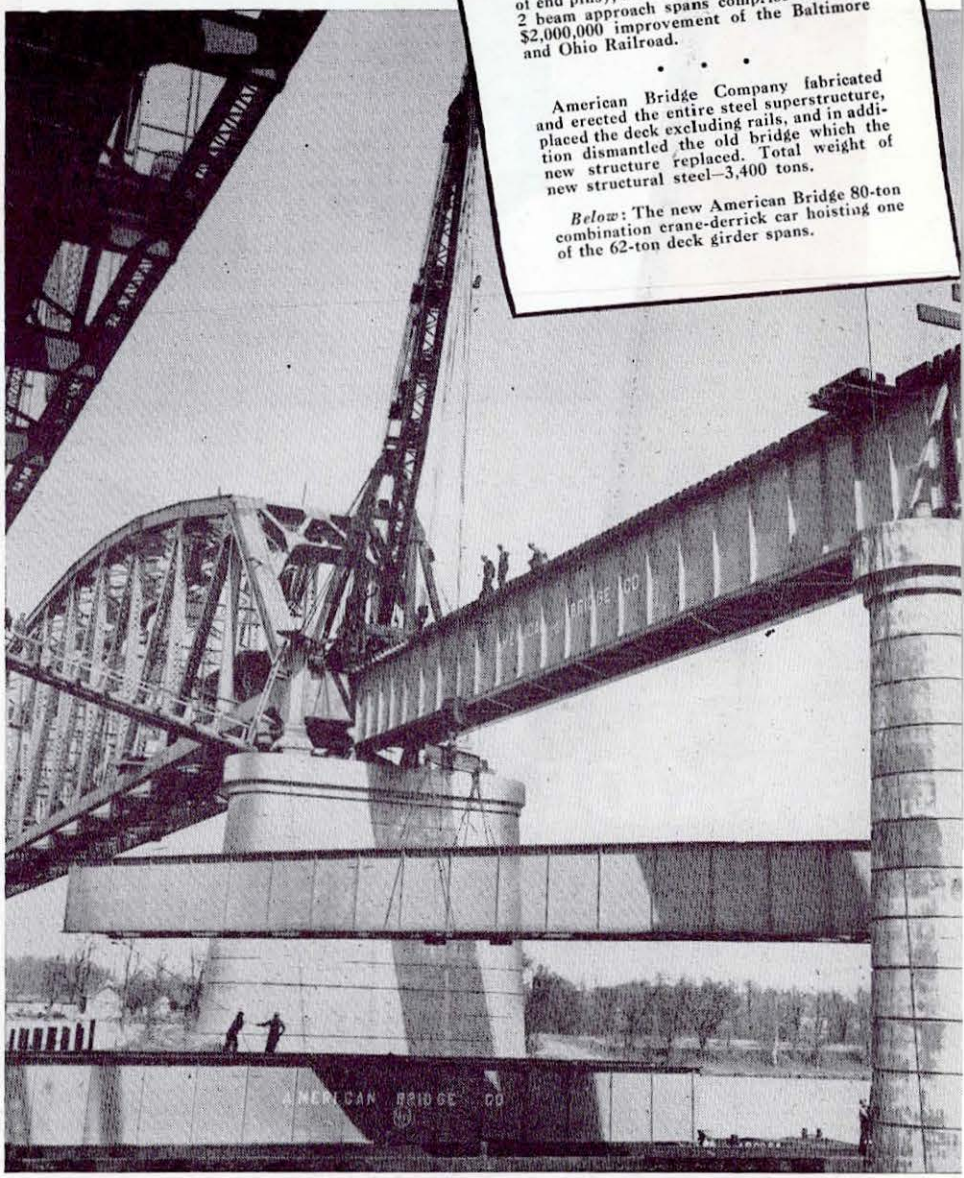
American Bridge Company fabricated and erected the entire steel superstructure, placed the deck excluding rails, and in addition dismantled the old bridge which the new structure replaced. Total weight of new structural steel—3,400 tons.

Below: The new American Bridge 80-ton combination crane-derrick car hoisting one of the 62-ton deck girder spans.

THE NEW Baltimore & Ohio Railroad bridge spanning the Great Kanawha River at Point Pleasant, W. Va., is a typical example of modern railroad progress. And many of the new bridges which carry today's faster traffic and heavier loads, have been fabricated and erected by American Bridge Company.

Whether your own immediate project is large or small, call on American Bridge. Our extensive facilities, modern equipment, long experience and technically-trained personnel are at your service.





AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

Contracting Offices in: Baltimore · Boston · Chicago · Cincinnati · Cleveland · Denver · Detroit
Duluth · Minneapolis · New York · Philadelphia · St. Louis

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*
United States Steel Export Company, New York

UNITED STATES STEEL

EXIDE-IRONCLAD® BATTERIES

Assure dependable power for Diesel locomotive cranking

On leading roads throughout the country, more and more Exide-Ironclad Batteries have become the first choice for Diesel engine cranking. That's because railroaders know that these trustworthy batteries have *all four* of these vital characteristics: High Power Ability, High Electrical Efficiency, Ruggedness and Long Life . . . assuring years of safe, dependable, day-in-day-out railroad service.

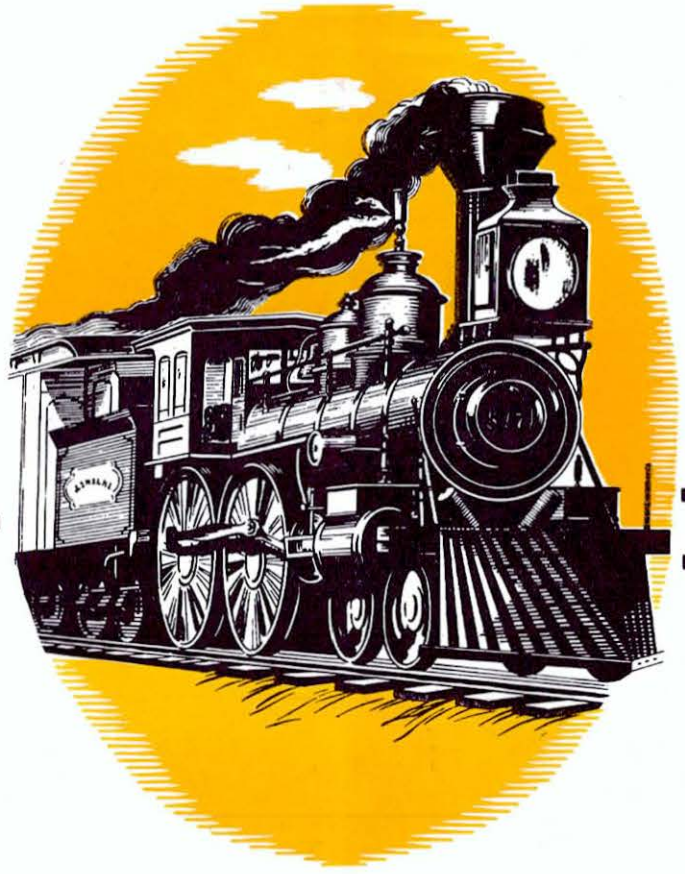
Exide-Ironclad Batteries are widely used . . . not only for Diesel cranking . . . but for car lighting, air conditioning, battery electric trucks and other heavy-duty battery jobs.

For more than half a century, Exide Batteries have been serving America's railroads with dependability, long life, economy and low cost maintenance.

1888 . . . Dependable Batteries for 60 Years . . . 1948

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32 • *Exide Batteries of Canada, Limited, Toronto*

Highliner 1880 Style



The last word in power and speed for that day—a massive American-type 4-4-0 locomotive at the head end of the proudest varnishes running! But passengers and trainmen alike wouldn't believe the advancements in today's highliners—particularly improvements made possible by LFM's pioneering in railroading equipment. For instance, LFM proposed the lightweight piston in 1915. It was installed on a large Eastern railroad in 1924. Today it is used by most of the roads because it gives longer, smoother service and saves time in the shop.

The highly specialized shop and engineering facilities of LFM are available to all the roads at any time for solving present problems or meeting future needs—without obligation.

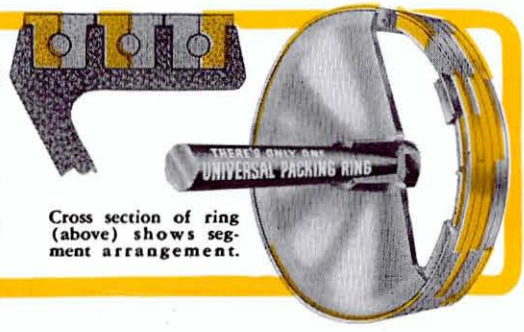
LFM Lightweight Alloy Steel Piston and Universal Sectional Bull and Packing Rings.

Lighter, require less counter balance weight

Require less fuel, making longer runs possible

Hammerblow to track and bridge structures decreased

Sectional lipped-type design of packing ring helps eliminate steam leaks, cutting maintenance.



Cross section of ring (above) shows segment arrangement.

THE LOCOMOTIVE FINISHED MATERIAL CO.

NEW YORK CITY CHICAGO, ILL.

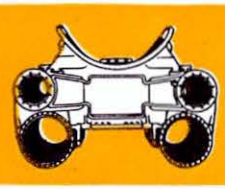
ATCHISON, KANS.
HOME OFFICE & PLANT

LFM ESTABLISHED 1872

Universal Wheel Centers

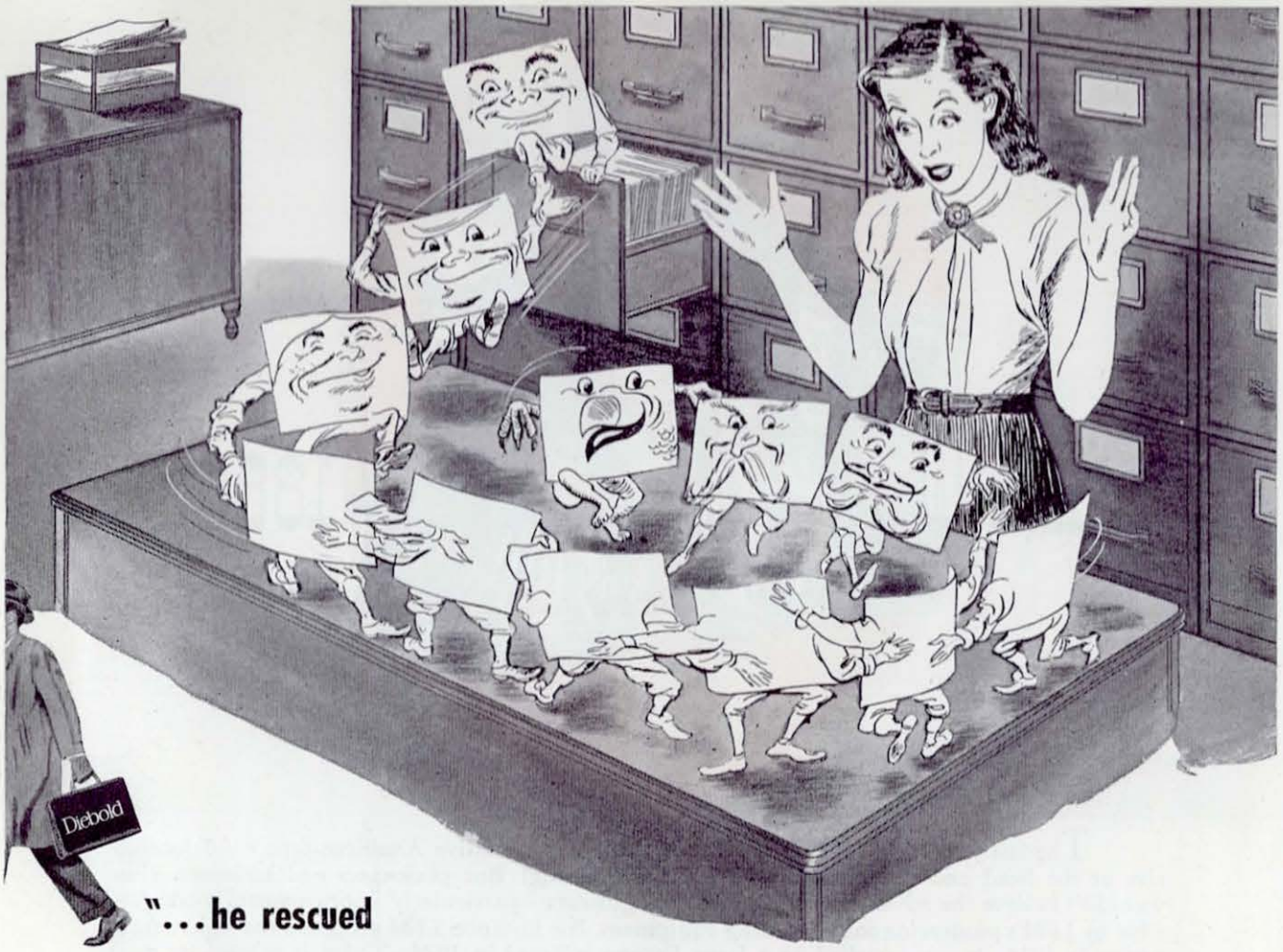
Universal Alloy Electric Steel Frogs

Valve Chamber Bushings of Air Furnace Iron



One Piece Locomotive Cylinder Castings

PIONEERS OF THE LIGHTWEIGHT PISTON — ORIGINATORS OF THE "LIPPED-TYPE" PACKING RING



"...he rescued

Alice from Blunderland...

...and she's been going to town ever since!

"Here was a case of 'Blunderland' office procedure, records and equipment, slowing up a gal that was *trying* to be efficient.

"Here's what we did:

"We asked the Diebold Man to make a record equipment analysis of the situation. He found Alice walking when she should (and could) have been sitting still. Reaching from the ceiling to the floor after poorly housed records was slowing her reference time. She lacked modern record signaling facilities necessary for fast analyses.

"As a result of his behind-the-scenes information he was able to make unbiased suggestions that helped Alice out of a tough spot. *Unbiased,* because he could offer all four types of record-handling equipment—rotary, vertical and visible files—even microfilm!"

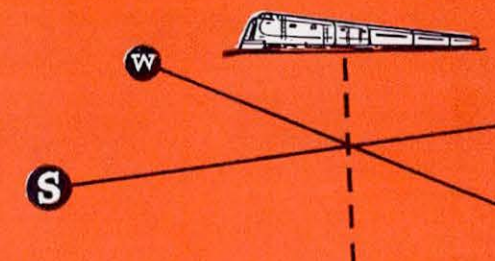
Need help? Phone your local Diebold Office, or write—Diebold, Inc., 1617 Fifth Street, S.W., Canton 2, Ohio.

The new V-Line posting tray—one item in the wide range of Diebold equipment types. Speeds machine or hand-posting. Saves space—time—money. Ask your Diebold Man.

Diebold ROTARY VERTICAL VISIBLE MICROFILM

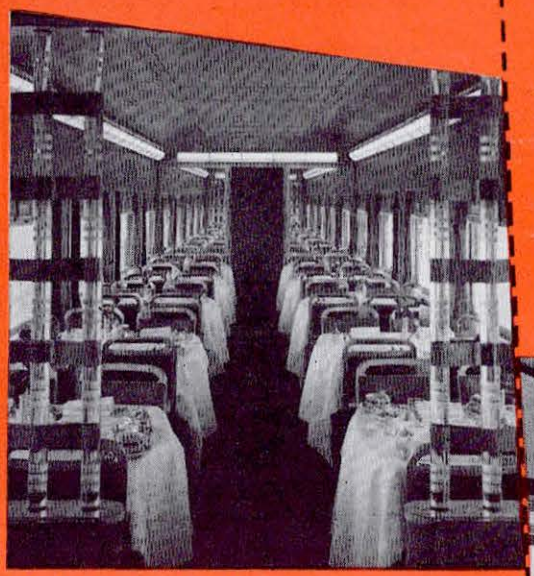
RECORD-HANDLING *Systems*

MICROFILM • ROTARY, VERTICAL AND VISIBLE FILING EQUIPMENT • SAFES, CHESTS AND VAULT DOORS • BANK VAULT EQUIPMENT • BURGLAR ALARMS

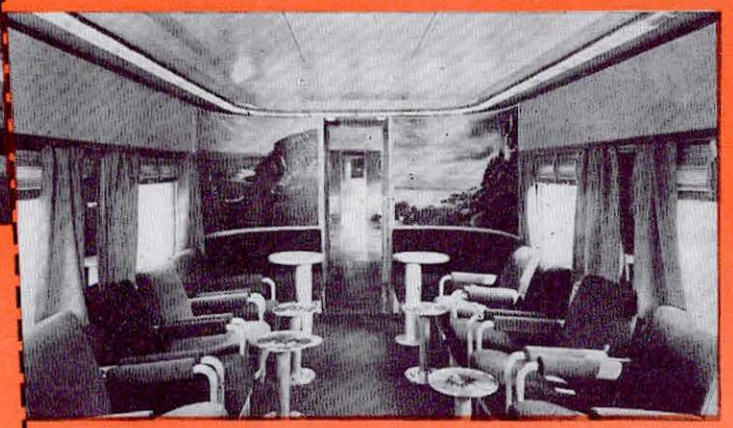


America's Finest Trains use

LUMINATOR ENGINEERED LIGHTING

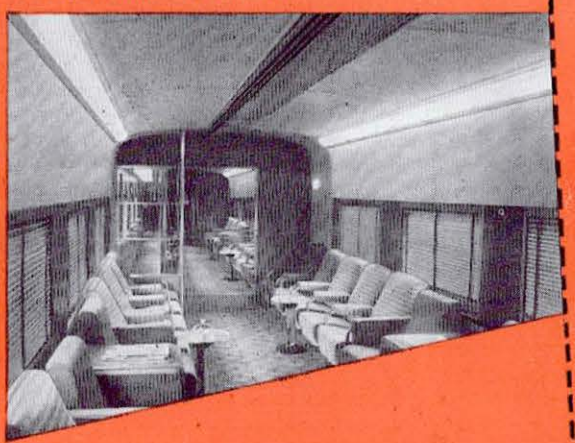


The Dining Car has added smart style and efficiency with Luminator lensed glassware fixtures engineered to provide a higher intensity glareless light for the dining table areas.



The Restaurant Lounge Car uses a fixture designed, engineered and constructed by Luminator. It projects a high intensity light to the reading and eating levels without distracting glare or shadows.

This modern Lounge Car is lighted by Luminator engineered fixtures... direct glare and contrast glare have been reduced to a comfortable degree creating a cheerful brightness. They're dustproof... provide long life ... require little maintenance.



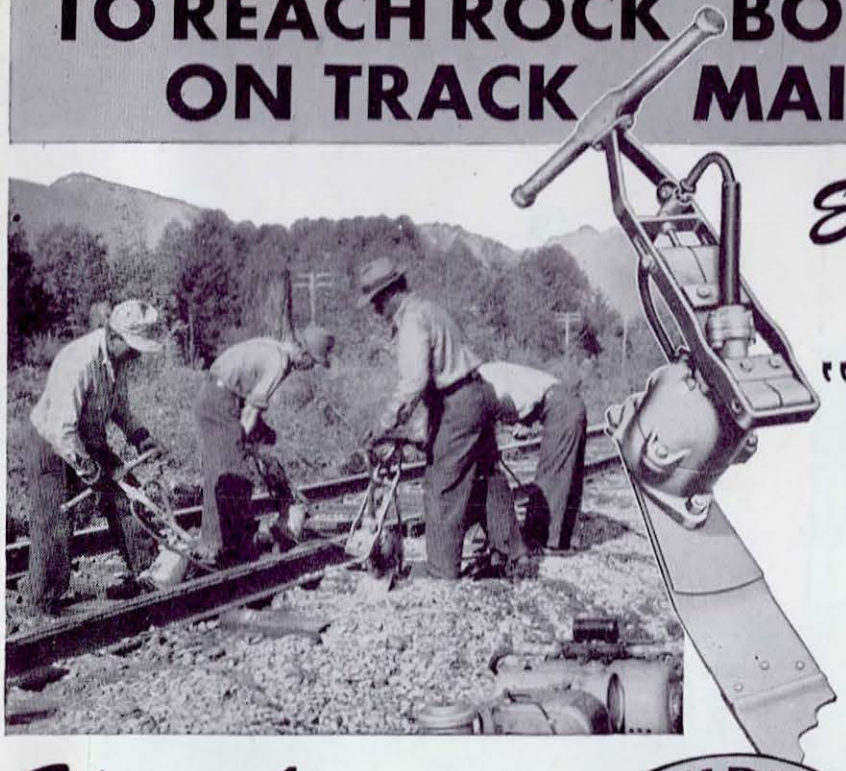
Atchison, Topeka & Santa Fe
Atlantic Coast Line
Baltimore & Ohio
Boston & Maine
Canadian National
Canadian Pacific
Central of Georgia
Central R.R. Co. of N. J.
Chesapeake & Ohio
Chicago & Eastern Illinois
Chicago & Northwestern
Chicago, Burlington & Quincy
Chicago Great Western
Chicago, Indianapolis & Louisville
Chicago, Milwaukee, St. Paul & Pacific
Chicago, Rock Island & Pacific
Chicago, St. Paul, Minneapolis & Omaha
Delaware & Hudson
Delaware, Lackawanna & Western
Denver & Rio Grande Western
Erie
Florida East Coast
Great Northern
Gulf, Mobile & Ohio
Illinois Central
Kansas City Southern
Lehigh Valley
Louisville & Nashville
Minneapolis, St. Paul & Sault Ste. Marie
Missouri-Kansas-Texas
Missouri Pacific
Nashville, Chattanooga & St. Louis
New York Central
New York, Chicago & St. Louis
Norfolk & Western
New York, New Haven & Hartford
Northern Pacific
Pennsylvania
Pere Marquette
Pittsburgh & Lake Erie
Reading Company
Richmond, Fredericksburg & Potomac
St. Louis-San Francisco
Seaboard Air Line
Southern Railway System
Southern Pacific
Spokane, Portland & Seattle
Texas & Pacific
Union Pacific
Wabash

LUMINATOR

LIGHTING ENGINEERS • DESIGNERS • MANUFACTURERS

120 NORTH PEORIA STREET • CHICAGO 80, ILLINOIS

TO REACH ROCK BOTTOM COSTS ON TRACK MAINTENANCE

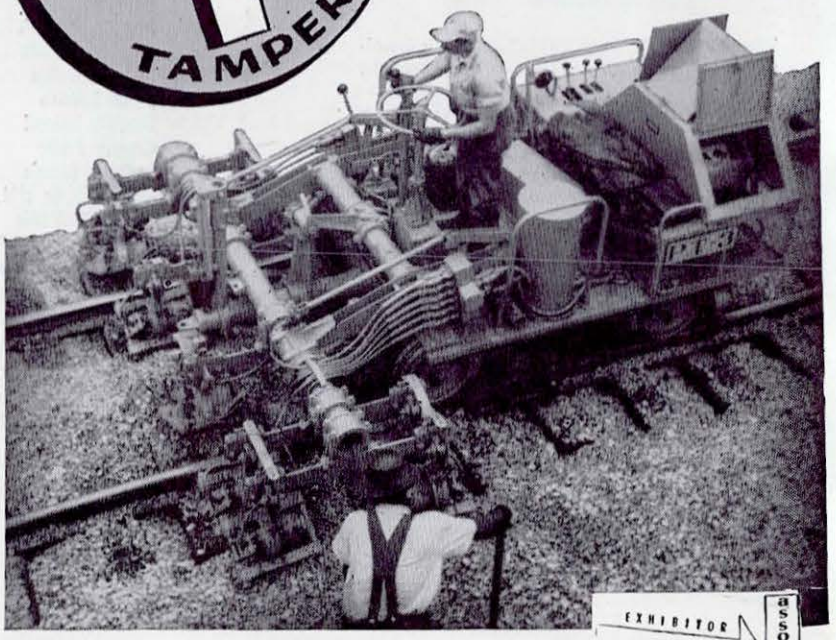


Equip Your SECTION GANGS *with* JACKSON "LO" TIE TAMPERS

For spot tamping, skeletonizing and such regular out-of-face or surfacing work as section gangs do on many roads, no other equipment equals the productivity and quality of work obtained with Jackson "LO" tampers and power plants. On this type of operation they will bring your costs down to the very minimum!

Use the JACKSON MULTIPLE TAMPER *for* MAJOR BALLASTING OPERATIONS

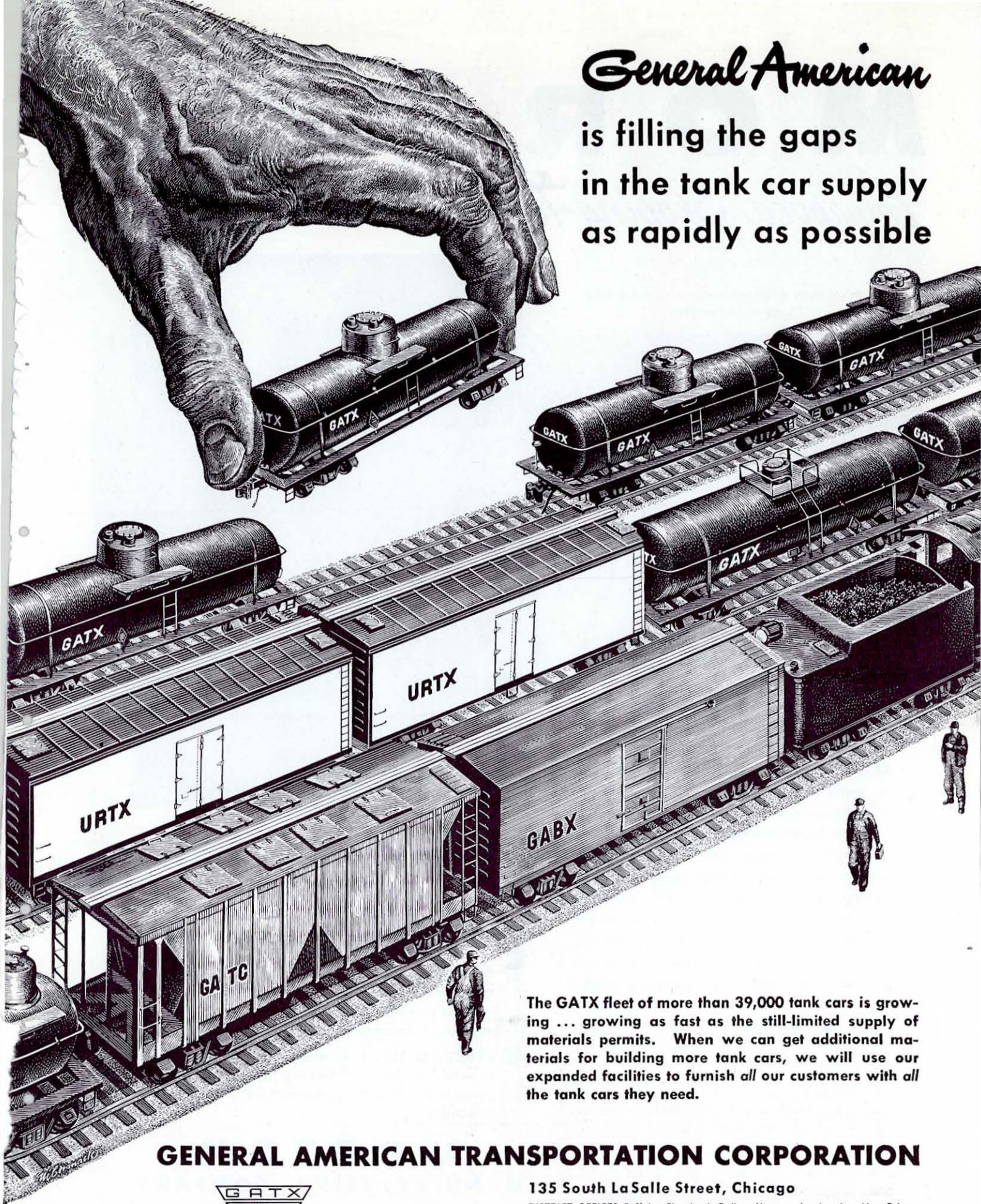
This machine is revolutionizing track ballasting methods from the standpoint of low costs, permanence and absolute uniformity of track. No follow-up or smoothing is necessary, and "the track stays put!" Equally efficient in rock ballast, gravel and light ballast. ONE man operates 12 tampers simultaneously. When working in tandem, two Jackson M-Ts will usually double the daily footage of surfacing gangs without materially increasing the number of men ahead of the machines; and there are just 2 tamper operators instead of *24!*



EXHIBITOR BRIDGE & BUILDING TRACK SUPPLY associations
HOTEL STEVENS, CHICAGO SEPT. 20-21-22, 1948

IT'S A "WORLD-BEATER" COMBINATION

ELECTRIC TAMPER & EQUIPMENT CO., Ludington, Michigan



General American

is filling the gaps in the tank car supply as rapidly as possible

The GATX fleet of more than 39,000 tank cars is growing ... growing as fast as the still-limited supply of materials permits. When we can get additional materials for building more tank cars, we will use our expanded facilities to furnish *all* our customers with *all* the tank cars they need.

GENERAL AMERICAN TRANSPORTATION CORPORATION

GATX GENERAL AMERICAN TRADE MARK

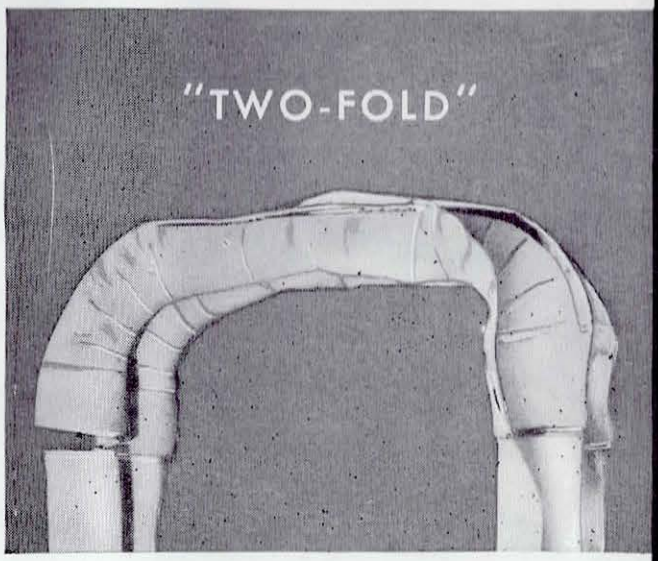
135 South La Salle Street, Chicago

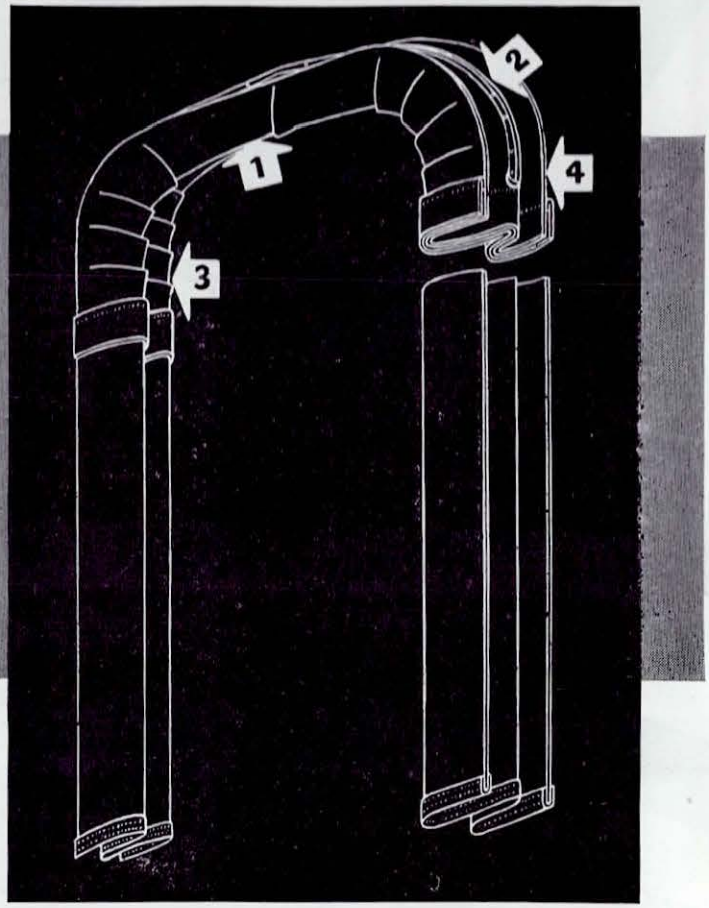
DISTRICT OFFICES: Buffalo • Cleveland • Dallas • Houston • Los Angeles • New Orleans
New York • Pittsburgh • St. Louis • San Francisco • Seattle • Tulsa • Washington
EXPORT DEPT., 10 East 49th Street, New York 17, New York

MORTON

Improved Sloping-Top Sectional Diaphragms

Actual photo of diaphragm top distorted to show corner corrugations.





Designed for streamliners, engineered for money-saving performance, the Morton Diaphragm has been adopted and *reordered* by many of the nation's leading railroads. It's service-tested.

Gives long-lasting, positive protection from weather, water, and cinders; sloping top drains quickly. Diaphragm belting is of rugged "50-50" weave of proved durability; protected by a fire-resistant and waterproofing treatment which adds life to the fabric. New "Plas-Tex" finish—of latest *Vynilite* resin type—is permanently calendered on the belting surface in colors to match car color schemes.

•

Also builders of Morton "Open-Grip" Running Boards, and Morton-zip Weather Seals for streamlined vestibules.

•

Write to nearest Morton Sales Office for estimates and complete information.

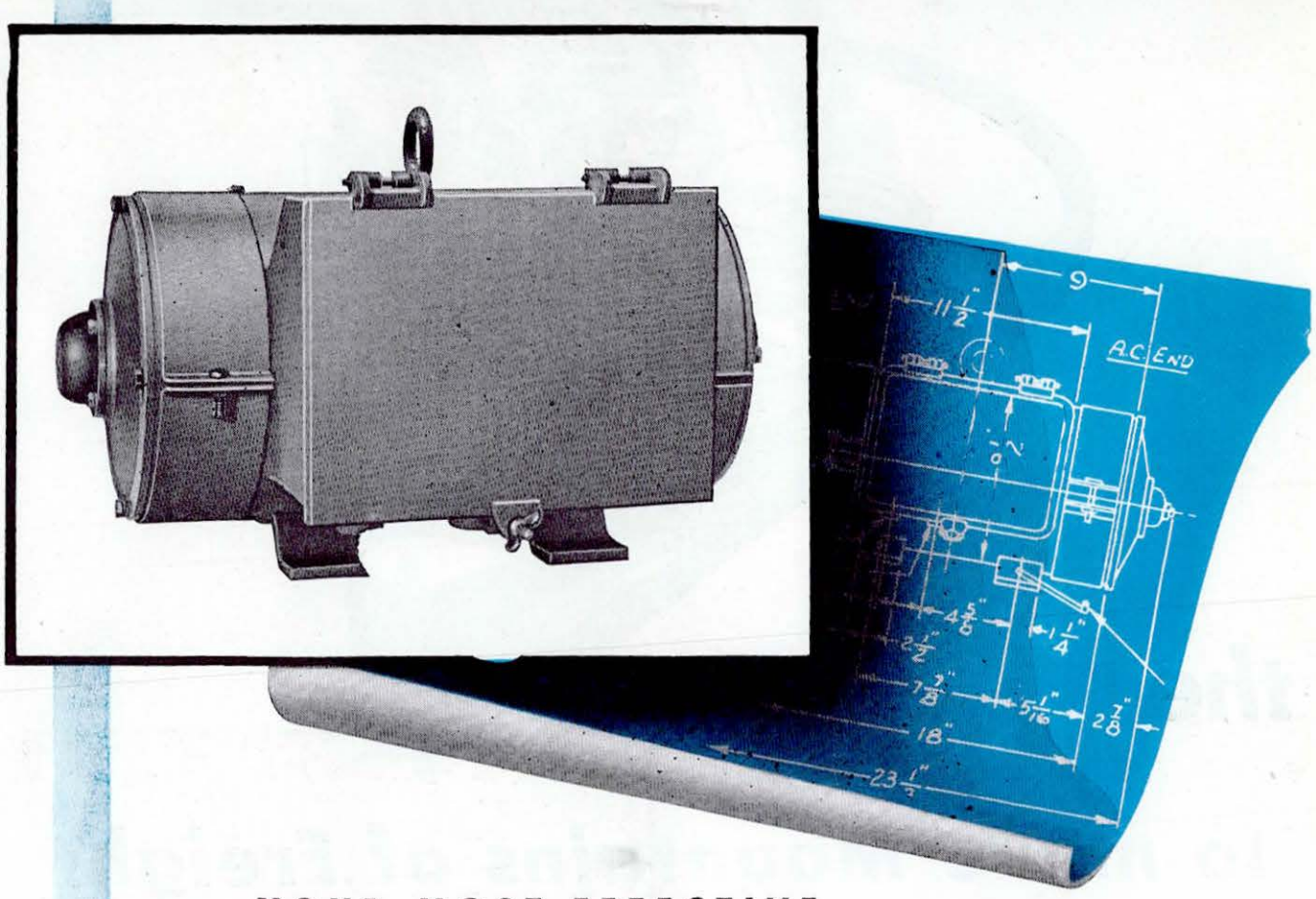
You'll find these advantages PLUS economy:

1. **SLOPING TOP** provides fast drainage; prevents accumulation of dirt and cinders.
2. **CHANNEL-IRON STIFFENER** is of heavy-gauge steel, galvanized and painted.
3. **CORRUGATED CORNERS** remain intact and weathertight under conditions which would make *pieced* corners unusable . . . continue serviceable even if stitching is damaged.
4. **REMOVABLE TOP,** with weathertight joint between top and leg pieces. Note snug pocket design which gives same weather protection as one-piece construction.

MORTON
MANUFACTURING COMPANY
5125 West Lake Street, Chicago 44, Illinois

SALES OFFICES—New York, St. Louis, St. Paul, Washington, D. C., San Francisco, Louisville, Montreal

PROOF IS IN THE PERFORMANCE



YOUR MOST EFFECTIVE CONVERSION EQUIPMENT...

Made to withstand the rigors of railroad operation, Safety Company Motor Alternators have an unmatched performance record over many years, in applications for most of the nation's leading rail systems.

Each machine is a complete, self-contained unit, designed for the most efficient and dependable conversion performance. Inherent voltage and frequency control holds voltage between 110 and 125 volts and frequency from 58 to 62 cycles for all voltages impressed on the motor.

Safety Motor Generators are designed with many features similar to the Alternators. For specifications covering Safety Motor Alternators and Generators, write to the nearest Safety Company office.

OUR SIXTY-SECOND YEAR LIGHTING AMERICA'S RAILROADS

THE SAFETY CAR HEATING AND LIGHTING COMPANY INC.

NEW YORK · CHICAGO · PHILADELPHIA · ST. LOUIS · SAN FRANCISCO · NEW HAVEN · MONTREAL

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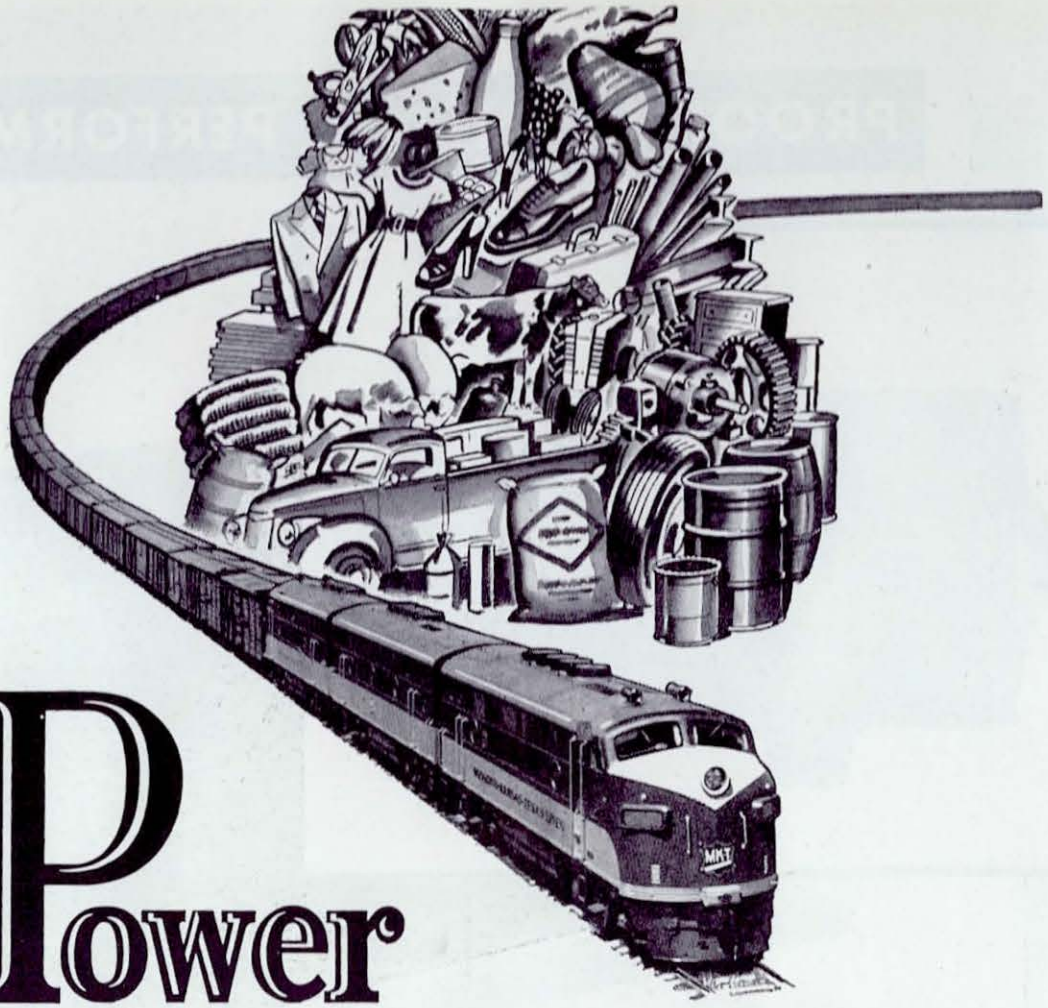
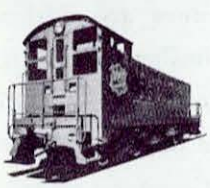


the Power to move Mountains of Freight

NEW MERCHANDISE CARS
... hundreds of them, augment Katy's fleet of heavy cargo transportation.

NEW HOPPER CARS
... available for quick, efficient, versatile service to shippers.



NEW DIESEL POWER
... to expedite transfer of your freight at major terminals — and road haul it with speed and economy.

YOURS ON THE *Katy*

SMOOTH DIESEL POWER ... to deliver your goods in perfect condition. High-speed power that permits scheduling to suit your every shipping need.

DIESEL POWERED SWITCHERS ... at important terminals to expedite the transfer of your carloads to markets and factories.

RADIO POWER ... a magic service PLUS to speed handling of your freight.

Katy's equipped for even heavier, longer hauls, smoother handling of your shipments—dependable, on-time service between Texas and Oklahoma and the North. For careful, precision shipping to and from the Southwest... ship KATY!

MISSOURI-KANSAS-TEXAS LINES

Ship Via The Southwest's Main Supply Line

KATY BULLET
Daily from Kansas City and St. Louis to all main Southwestern points.

KATY KOMET
Katy's fastest—Southbound daily from St. Louis to all main-line points.

KATY KLIPPER
Daily, St. Louis and Kansas City to Oklahoma and Texas.

KATY PACKER
Northbound daily, Fort Worth to Kansas City and St. Louis.

"72" FAST FREIGHT
Daily from Texas and Oklahoma to Kansas City and St. Louis.

Also... Convenient Double Daily Service between St. Louis and Kansas City.

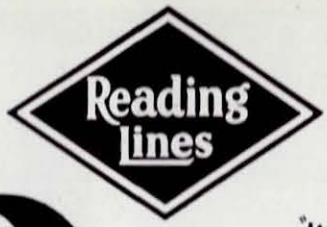
M-K-T
KATY RAILROAD
MISSOURI-KANSAS-TEXAS

178

SERVING THE RAILROADS OF THE NATION FOR FIFTY YEARS

WHEEL TRUING BRAKE SHOE CO.

628 W. Baltimore, Detroit 2, Michigan



IF YOUR SYMBOL IS MISSING

YOU ARE MISSING SOMETHING

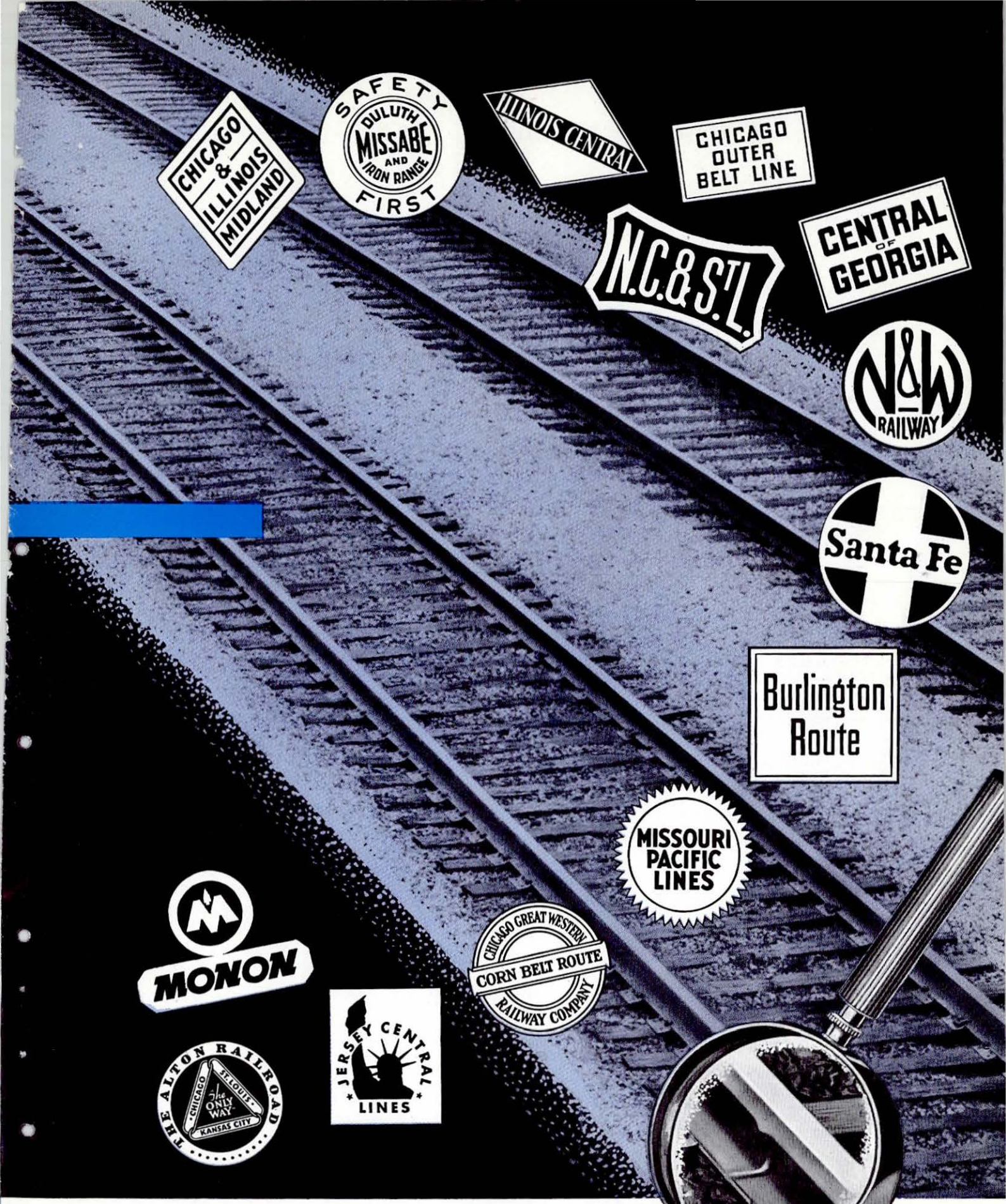
Here are the symbols of twenty-six railroads that have installed oxy-acetylene pressure-welded rail. Jointless continuous rails in the trackage of these railroads range in length from 100 ft. to 12,780 ft. In twenty-five states throughout the country, this long rail is in high speed open track, on bridges, in tunnels and streets, and in other special locations. This oxy-acetylene pressure-welded rail has no joints—needs no joint maintenance.

Continuous rail has been produced and installed under OXWELD procedures since 1938 and is no longer considered experimental. Some of the nation's fastest trains, as well as the heaviest freight equipment, now glide smoothly over oxy-acetylene pressure-welded rail.

This is another OXWELD service developed as a result of working with American railroads for more than a third of a century. Write for the booklet "How Long Can A Rail Be."

THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation
UCC
Carbide and Carbon Building Chicago and New York
In Canada:
Canadian Railroad Service Company, Limited, Toronto

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS



PRESSURE-WELDED RAIL

UNION PACIFIC

The Governor of Nebraska *invites You*

VAL PETERSON
GOVERNOR

STATE *of* NEBRASKA
EXECUTIVE OFFICE
LINCOLN

To American Industry:

In the last decade, Nebraska's productive capacity has grown threefold. Modern industry has found in increasing numbers that Nebraska's diversified assets form the economic cornerstone of a better tomorrow!

Here there is respect and reward for individual initiative, whether its hallmark be overalls or a business suit. Nebraskans prize ingenuity, cooperation and achievement. Their fundamental faith is reflected by Nebraska government in a conscientious resolve against debt, restrictive taxes and regulatory legislation.

In behalf of all citizens, I invite industry to share Nebraska's unique heritage as the continental crossroads of commerce and heart of a land unmatched in natural wealth.

Sincerely,

Governor

Val Peterson

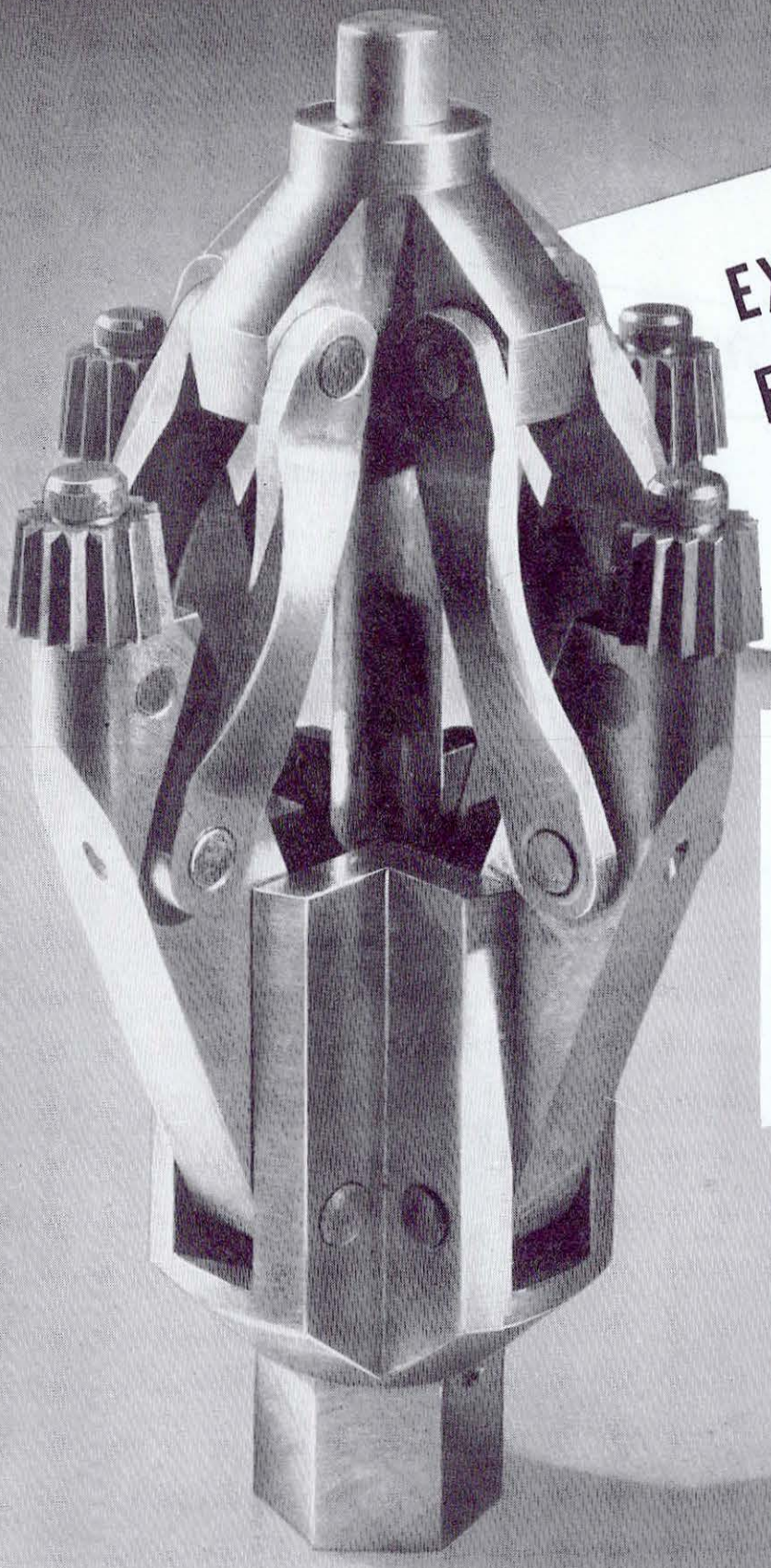
* One of a series of advertisements based on industrial opportunities in the states served by Union Pacific Railroad.

Unite with Union Pacific in selecting sites and seeking new markets in California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Oregon, Utah, Washington, Wyoming.

*Address Industrial Department, Union Pacific Railroad
Omaha 2, Nebraska

UNION PACIFIC RAILROAD

Road of the Daily Streamliners



EXPANSION CANNOT EXCEED DIAMETER OF SYPHON NECK

REYNOLDS SYPHON AND CIRCULATOR CLEANER

By automatically confining itself to the diameter of the syphon neck the Reynolds Syphon Cleaner assures maximum efficiency and is protected against damage to the arms and cutters when used around the stayed portion of the syphon.

FLANNERY BOLT COMPANY

BRIDGEVILLE ★ PENNSYLVANIA

Modern MAGNUS BEARINGS *Improved*

"TWINPLEX" ALARM JOURNAL BEARING

Gives *"Two-Way"* ADVANCE WARNING

—of High Temperatures in Journal Box

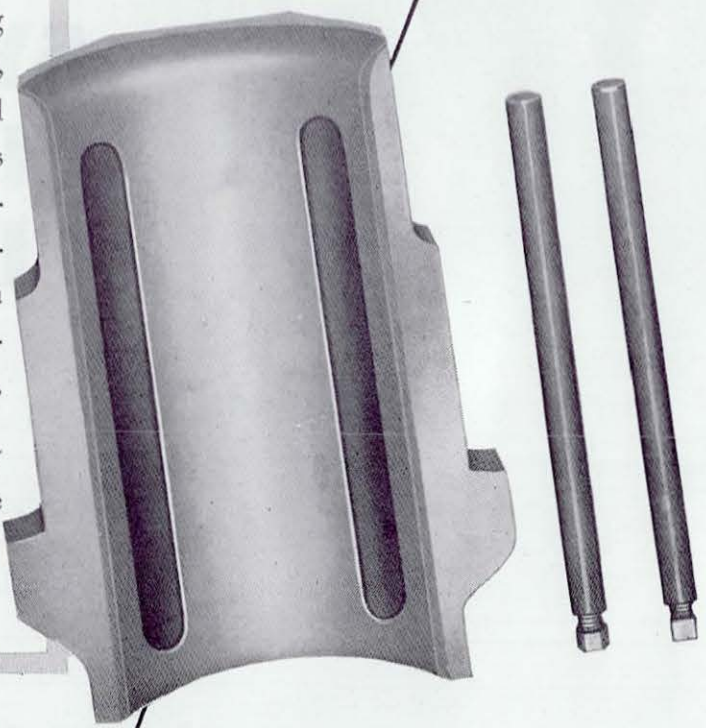
1. a warning you can SMELL

2. a warning you can SEE

The "Twinplex" Alarm Journal Bearing is a certain safeguard against failures resulting from overheated journals.

It is a standard A. A. R. bearing equipped with two brass tubes, each having a small orifice sealed with fusible metal which melts at 320 deg. F. At this temperature, one tube releases a penetrating odor, and the other a dense white smoke, both continuing for about 8 minutes.

This device has proven highly effective under actual service conditions.



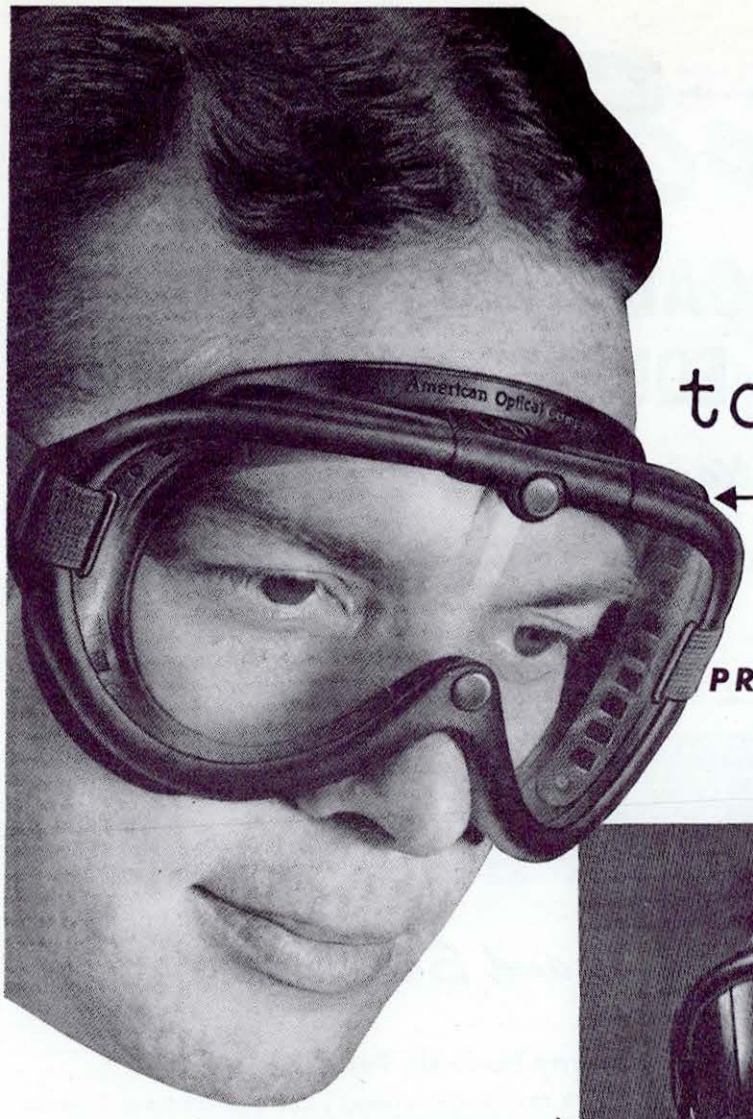
SATCO Bearing Metal

MODERN HEAVY DUTY BEARINGS

MAGNUS METAL CORPORATION

CHICAGO NEW YORK

2180



Pick your PROTECTION to PERFECTION!

AO 700
RUBBER FRAME GOGGLE
PROTECTS AGAINST CHEMICAL AND DUST HAZARDS . . .

AO 705
SUPER VENT GOGGLE
PROTECTS AGAINST FOGGING AND STEAMING ALSO

These two NEW Goggles are identical except for the special nosepiece and inhalation and exhalation valves on the 705 which operate to prevent fogging and steaming in hot, humid working conditions. Each goggle is designed for the greatest possible protection and comfort — each features a large shatter-resistant single acetate lens which can be *easily replaced*, and WIDE ANGLE VISION.

The all-rubber frame molded to conform to face contours provides an airtight, dust-tight fit. While the 705 is recommended for severely hot and humid operations, the 700 provides ample ventilation in normal atmospheres. A filter element under the perforations at top and sides of the goggle blocks acid and dust from the eye area. Headband is comfortable and adjustable.

The 705 Super Vent Goggle operates by air sweeping through a chamber when wearer inhales, thus removing moisture on the inner lens surface before fogging can begin. When exhaling, inlet valve closes and moist air escapes through exhalation valve. Your AO Safety Representative can supply you with the right goggle for your needs.

American Optical COMPANY *Safety Division*

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

See Automatic Electric's

RAILROAD COMMUNICATIONS EQUIPMENT *at the*

COLORADO SPRINGS
Sept. 28, 29, 30

Convention of Communications Section

Association of American Railroads

Lenkurt Type 22 F.M. Telegraph Carrier

Provides up to 18 telegraph channels on one ordinary voice channel.

Railroad Service Telephones and Supplies

Type 10 Railway Portable Telephone

Equipped with push-to-talk handset. Has high-efficiency, local battery circuit with low bridging loss; complies fully with railroad standard requirements.

Type 40 Railway Monophone

Employs high-efficiency, low bridging-loss circuit which permits multiple bridging of instruments over dispatcher's or message circuits.

Type 43 Railway Monophone

Mounts anywhere—on the end of a desk or table, on the wall or any other available location. Same high-efficiency circuit and components used in other Railway Monophones.

Type 60 Booth Monophone

The booth telephone for use on dispatcher or message circuits. Completely self-contained and equipped with handset with push-to-talk button.

Plus many modern line supplies including Universal Line Pole, linemen's tools and equipment, Big Beam lamps, drop wire and other miscellaneous items.

AUTOMATIC ELECTRIC
SALES CORPORATION

1033 West Van Buren St., Chicago 7, Illinois

Export Distributors: International Automatic Electric Corporation

Vol. 125, No. 11 September 11, 1948

RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office.

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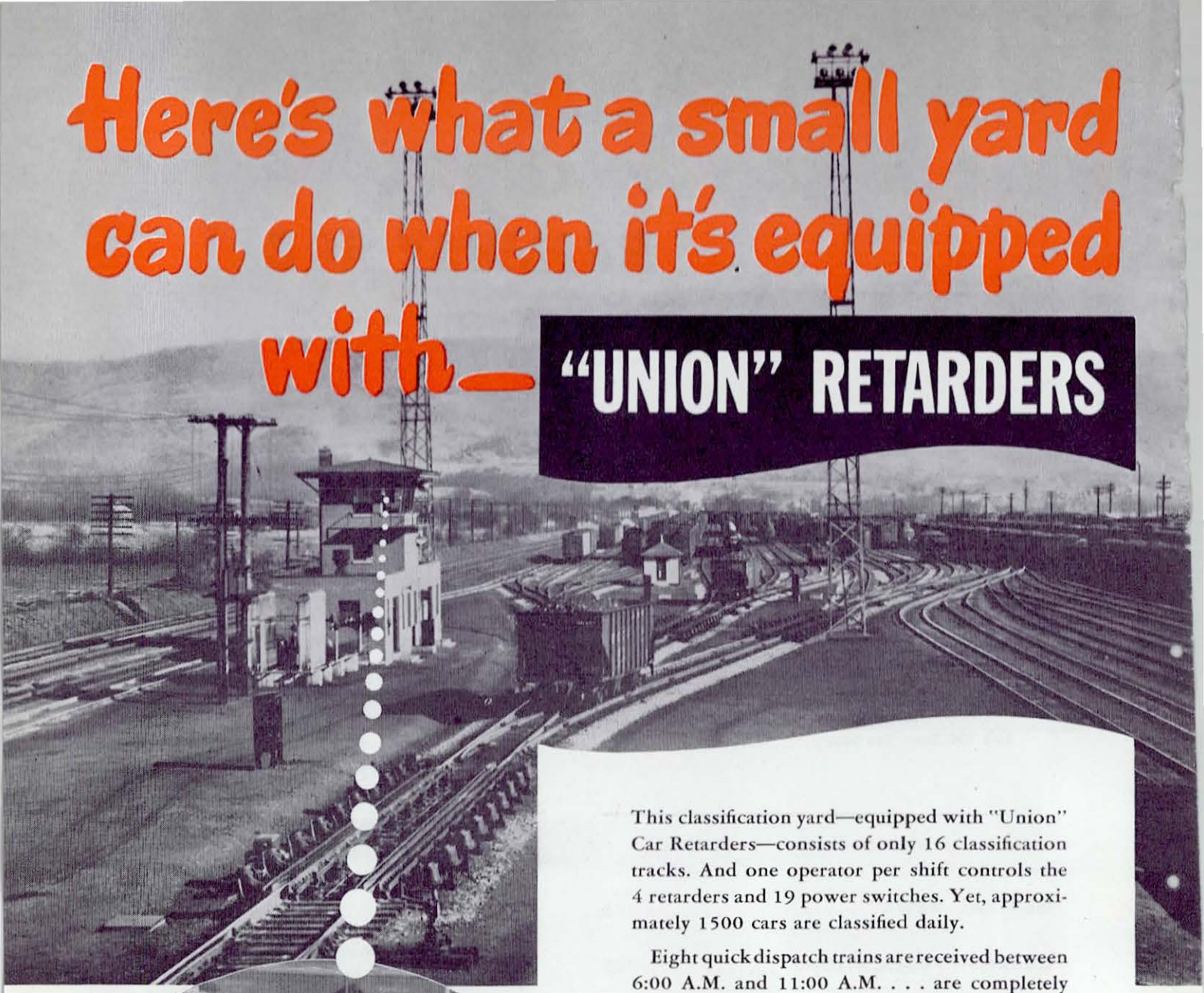
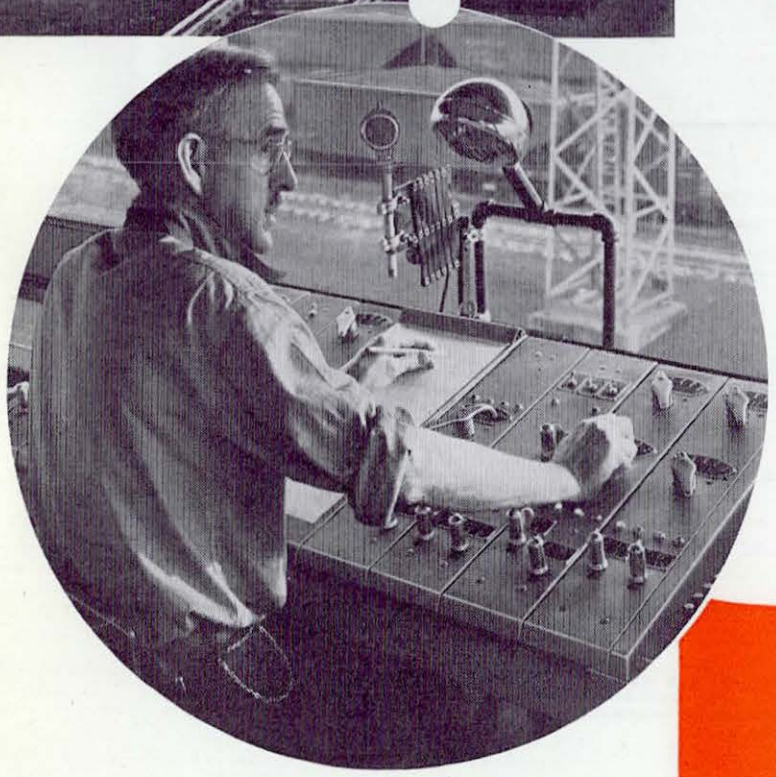
PRINTED IN U. S. A.

Here's what a small yard can do when it's equipped with— "UNION" RETARDERS





This classification yard—equipped with "Union" Car Retarders—consists of only 16 classification tracks. And one operator per shift controls the 4 retarders and 19 power switches. Yet, approximately 1500 cars are classified daily.

Eight quick dispatch trains are received between 6:00 A.M. and 11:00 A.M. . . . are completely classified by 1:00 P.M. . . . depart in 7 trains due out between 10:30 A.M. and 1:30 P.M. Five quick dispatch trains arrive between 4:35 P.M. and 7:30 P.M. . . . are classified between 6:00 P.M. and 1:00 A.M. . . . depart as 7 scheduled trains between 8:15 P.M. and 1:00 A.M.

During the "off times," when no quick dispatch trains are in the yard, loaded hoppers flow over the hump to be classified. Most important, *the increased capacity that has been provided has made it possible to transfer work to this yard from other yards.*

UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

OVER THE GOAL AGAIN: Freight car production in August exceeded 10,000 cars, making it the second postwar month when that objective was attained. Pertinent figures in this week's news picture the car-production situation.

THE FIRST HUNDRED YEARS: How and why Chicago achieved its pre-eminent position as the world's greatest railroad center is a dramatic story of special interest at this time, with the sensationally successful Railroad Fair still in progress there, and with Chicago's pioneer railroad, the Chicago & North Western, preparing to celebrate its centenary. With these facts in mind, *Railway Age* publishes a paper on "One Hundred Years' Development of Railways in the Chicago Area," prepared by Samuel O. Dunn and originally presented before the Chicago group of the Newcomen Society. Part I of this paper appears on page 73 of this issue.

"PLANETARIUM" COACHES FOR "EAGLES": As part of their 134 new car program, the Missouri Pacific and Texas & Pacific have recently placed in service three new 70-passenger "planetarium" dome coaches and three new 64-passenger de luxe coaches. These six cars, all built by the Budd Company, have been assigned to the "Colorado Eagle" and other "Eagle" trains operated by these carriers. They are fully described in the illustrated article on page 64.

RADIO ON THE ERIE: Time saved for perishable freight—faster resumption of traffic after minor emergencies—less danger of trains breaking in two—these are some of the dividends being collected by the Erie from its new space-radio installation on three heavy-traffic divisions between Marion, Ohio, and Salamanca, N. Y., 347 mi. Specific instances of these and other benefits are enlarged upon in one of our feature articles (page 56). The Farnsworth-built radio facilities, which will eventually be extended west to Chicago and east to Jersey City, N. J., to cover the Erie's entire 999-mile line between those points, permits end-to-end of train, train-to-wayside-station, train-to-train, and wayside-station-to-wayside-station communication.

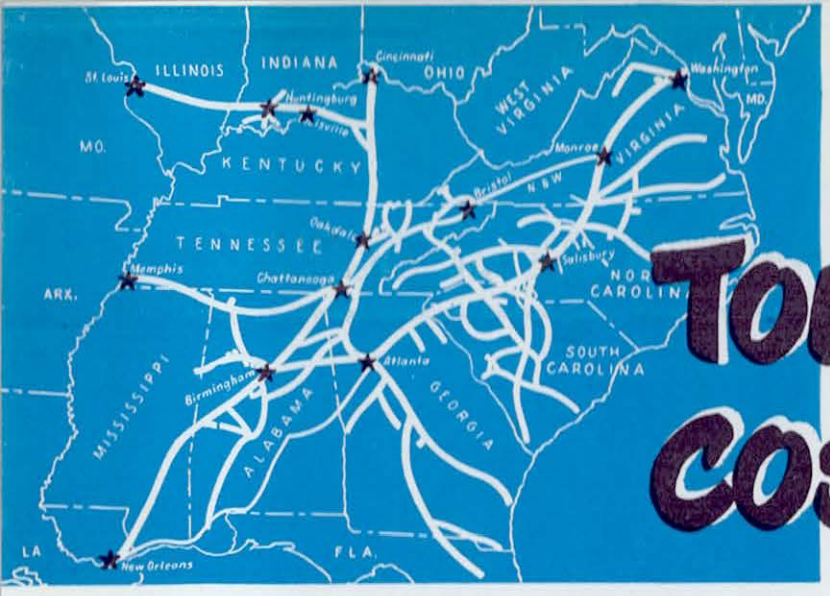
"CEMENT CASE" CRISIS: Even Philadelphia lawyers don't agree as to the ultimate consequences to American industry, to the railroads, and to many communities, large and small, of the Federal Trade Commission's totalitarian attitude toward long-established competitive pricing practices based on freight-rate absorption. There is no lack of evidence, however, that these consequences, in many cases, may be disastrous. *Railway Age* has solicited the views of many important shippers as to the effect of this arbitrary New Dealish ruling, which the Supreme Court says is legal. It is their general belief that the situation is most serious, as our leading editorial indicates, and not least in significance as evidence to support these conclusions is the precipitate action of many industries to adjust their pricing methods to F.T.C. specifications. With each day's delay in securing a legislative clean bill of health for justifiable freight-rate absorption the disturbance of long-standing commercial relationships grows greater, as does the difficulty of unscrambling the result. Our editorial urges an early authoritative pronouncement as to congressional intent. The railroads, meanwhile, cannot afford to ignore this bureaucratic threat to the survival of an important part of their traffic.

LEDGER-LESS BOOKKEEPING: One of the advantages of modern accounting machinery is emphasized in the article in this issue (page 72) by L. V. Sullivan, comptroller of the New Haven, outlining the simplified unit invoice system used by that road to handle accounts receivable. That advantage—there are others—is the elimination of repetitive posting. The opportunities for error are substantially reduced, and at the same time the railroad realizes attractive payroll savings.

NET'S TREND UP: July net income of Class I roads, according to A.A.R. reports summarized in our news columns, was $76.7 million, more than double the July, 1947, total. This year's seven months' net was more than a third better than the 1947 figure. Net operating income is better than last year, too, but the current rate of $885 million a year is still far below what the railroads need to maintain the performance their customers expect of them.

RAILROAD BUYING INCREASES: Our regular monthly compilation of railroad purchases of equipment, supplies and fuel shows that the roads spent or obligated themselves for nearly $1½ billion for those items in the first six months of 1948—an increase of nearly 18 per cent over the first half of 1947. For June alone, railroad buying totaled $252 million, an increase of 17 per cent over the May total of $215 million, with June equipment orders running 77 per cent ahead of those for May. Figures by categories on railroad buying for June and the first half of the year appear on page 70, where June 1 inventories of major items also are summarized.

TIE PRODUCERS MEET: Some 375 crosstie producers and railroad officers met in convention at White Sulphur Springs, W. Va., August 30-September 1 to discuss trends and changing conditions in the tie industry. A report of the proceedings, which included some suggestions for modification of present railroad tie specifications, begins on page 60.



TONNAGE UP— COSTS DOWN!

IN a news release dated May 18, 1948, the Southern Railway System said: "As of March, 1948, 6.9 per cent of the System's freight locomotives were Diesel, and they hauled 41.4 per cent of the gross freight ton-miles and made 26.6 per cent of the freight locomotive-miles."

The report continues: "Net operating income for the first three months of 1948 increased to $7,121,000 from $5,660,000 in the same period of last year. Reflecting improvement in operating performance, largely due to the Southern's Dieselization program, the ratio of transportation expenses to gross revenues was reduced to 37.76 per cent from 38.52 per cent a year ago."

These figures pay tribute to the forward-looking policies of the Southern's management. They also pay tribute to the superiority of General Motors Diesel freight power, for all the Diesels in freight service on the Southern are General Motors locomotives. The job they are doing emphasizes their outstanding advantages in fast-schedule, high-tonnage, revenue-building service.

Over the ruling grades between Monroe and Potomac Yard, Va., for example, 5,400 H.P. General Motors Diesels handle trains of 3,850 tons northbound and 3,250 tons southbound — double the maximum tonnage possible with the heavy Mikado locomotives they replaced.

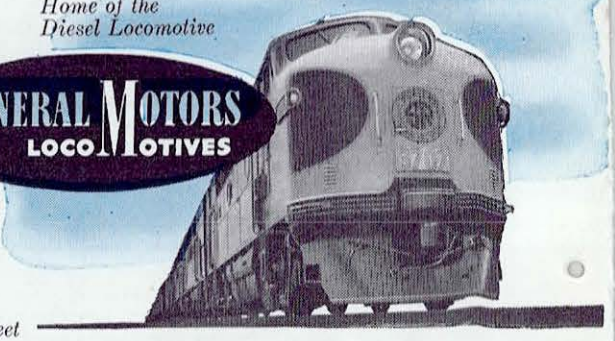
Three hours have been saved in the running time for freight between Chattanooga and Memphis since General Motors Diesels were installed. And a General Motors Diesel-powered freight train operated daily between Cincinnati and Atlanta makes the 481-mile run in 18 hours.

These examples are typical. On the Southern, as on most of the nation's leading railroads, the dependable day-in-and-day-out performance of these swift, sturdy, General Motors Diesels is working toward greater economies, efficiencies and profits in railroading.

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS
LA GRANGE, ILL.

Home of the Diesel Locomotive

GENERAL MOTORS LOCOMOTIVES



General Motors Diesel freight locomotive—one of a huge fleet with which Southern Railway System "Serves the South."

RAILWAY AGE

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SHIPPERS OPPOSE PROHIBITING ABSORPTION OF FREIGHT CHARGES

This paper recently sent to a nationwide cross-section of representative shippers of freight, and spokesmen for such shippers, a questionnaire asking their opinion of the effect on producers, consumers, the transportation business and the national economy of strict application to all industry of the Supreme Court's ruling in the so-called "Cement Case"—that is, strict prohibition of absorption of freight charges by producers, with all pricing f.o.b. Letters were sent to slightly more than 1,000 such shippers and replies of a kind which can be tabulated have been received from 166 of them.

The respondents who have an opinion on the effect of this ruling on the railroads are almost unanimous in their belief that it will be injurious—disastrous, in the opinion of many—to the volume of traffic moving by rail. Of the 166 answering this question, only 3 expressed the opinion that the effect would be to increase the volume of railroad transportation, while 33 either had no definite opinion or doubted that the effect on the railroads would be either markedly favorable or unfavorable. The remainder—130—believe the effect will be injurious to the transportation industry, particularly to the railroads.

As to the effect of strict adherence to f.o.b. pricing on the welfare of producers, only 6 of the 166 believe the result will be favorable; 45 are uncertain what the effect will be, or expect it will be slight. All the rest—115—are convinced that the prohibition of absorption of freight charges by producers will be injurious to them and to the communities where they are located.

Of the 166 respondents, there is only 1 who expresses the definite opinion that f.o.b. pricing will, on the average, benefit consumers by reducing prices—while 39 either believe the effect on consumers will be slight or are uncertain what the effect will be. The remainder—126—believe the general application of this ruling will result in higher prices to consumers.

The National Welfare First

The respondents also were asked to state whether in their opinion it is desirable in the national interest to reduce the volume and cost of transportation in the interest of small-scale and localized production; or whether increased transportation is justified if its added cost is more than offset by savings in production costs by the mass-production methods which large use of transportation makes possible. A typical answer to this question reads as follows:

"If a lot of long-haul transportation, required for mass production, results in a lower average delivered price than small-scale production with mini-

mum use of transportation, then long-haul transportation should be favored."

Of the 166 respondents, 122 gave answers substantially to this effect, while only 3 said it would be better to curtail production in the interests of small-scale, localized producers, even at higher total costs; 41 of the respondents either were not quite sure just what the answer to this question should be, or neglected to answer it entirely.

The evidence from this questionnaire is overwhelming that there is, at the very least, a strong *prima facie* case against the pricing policy with which the Federal Trade Commission is obsessed and in the application of which the Supreme Court of the United States has refused to interfere. In making an innovation as far-reaching in character as this one, the burden of proof should be upon the innovators. Instead of that, the Federal Trade Commission's policy is being adopted by one industry after another—not by choice, but for fear of prosecution.

Misplaced Burden of Proof

Senator Capehart's committee has instituted an investigation by competent experts of this whole complex situation, but this inquiry, if it is at all thorough, will require several months to complete—and, in the mean time, there will continue the chaotic disruption of production, marketing and transportation which progressive application of this doctrine is causing. The burden of proof has been taken off of the irresponsible bureaucrats of the Federal Trade Commission, who ought to be required to justify this far-reaching innovation before it is enforced. Instead, the producers and distributors who have created in this country an economy which is the envy of the world are required to abstain from pricing practices which certainly constitute a part of their effective service to the community; and are required to prove that established practices are not injurious and even criminal.

Quick Action Imperative

It ought to be the first order of business for the Capehart committee, when Congress reconvenes, whether in regular or special session, to introduce and insist on early passage of a measure to suspend the operation of the ruling requiring f.o.b. pricing until such time as Senator Capehart's experts can report to him on the desirability of definitive legislation. When a house is on fire while the volunteer firemen are debating on the purchase of a new fire engine, they should suspend their debate momentarily and extinguish the existing blaze by whatever means are available. That is what Senator Capehart ought to do in this case—and the bare announcement by him of such intention would accomplish a great deal of good, by inducing many companies to be less precipitate than they now are in throwing over freight-charge absorption for a strict f.o.b. basis. If retention of freight-charge absorption is going to be found desirable after lengthy investigation—and any other outcome is unthinkable—then it is certainly contrary to the national interest that this practice should, in the meantime, be precipitately abandoned, which is what is now happening.

JOURNAL-BEARING LUBRICATION FAILURES

It is difficult if not impossible to say anything new about journal-bearing lubrication failures—in other words, hot boxes. But the subject continues to be of keen interest to railway managements because of its direct bearing on the quality of railway service and on operating costs. That something needs to be done about these failures is indicated by their prevalence. Unfortunately overall figures for hot-box performance are no longer readily available, but one midwestern road reports 1,315 setouts of system cars and 2,956 of foreign cars because of hot boxes in the first six months of 1948. The number of miles per hot box for this period averaged roughly 110,000, as compared with 182,000 for the same period in 1947.

Some highly pertinent information regarding causes and what can be done to minimize hot boxes was developed in discussion of the lubrication committee report at the Association of American Railroad's Mechanical Division meeting in Chicago last June. Causes were summarized as (1) waste grabs due to train shocks, speed and track conditions, and failure to maintain journal-box details which tend to prevent waste grabs; (2) unsatisfactory condition of journal-box packing with resultant breakdown in lubrication; and (3) dry, hot weather. The latter cause is undoubtedly responsible for the fact that mileage figures per hot box generally skid to the cellar during the summer months.

Looking to the prevention of hot boxes, a number of practical suggestions were made in the discussion at Chicago, which applied to the character and condition of the packing, the condition of journal boxes and included parts, and more intensive attention to repacking over-date journal boxes.

Considerable attention has been given to over-date journal boxes, which was the subject of an A. A. R. circular letter last December. In a comparatively recent study of 8,500 cars received in interchange, 3,035 or 35.7 per cent of the cars were at least 9 months overdue for journal-box repacking and, of these, 911 cars, or 10.7 per cent of the

NEW KIND OF RENO

St. Louis, by some strange circumstance, apparently has earned the reputation of being a good city in which to bring damage suits against railroads. The leniency of juries seems to have more than local fame, for the records show that damage cases originating far from this city wind up in the courts here. Last year about $1,500,000 was awarded plaintiffs against railroads, some of which do not even run into this city.

Thus St. Louis is in the position of becoming a sort of Reno, a place to bring suit against railroads when the prospect of a fat verdict elsewhere is dim.

Railroads are traditionally fair game for litigants in personal and property damage suits, probably because the roads prefer to settle without going to court. Moreover, there is still a hangover from old days when the public thought railroads had unlimited capital and juries took pleasure in soaking them.

There is something unwholesome about this reputation of being a city in which extraordinary damages are awarded in railroad or any other type of cases. It implies a bias on the part of juries. It also implies that a litigant needn't have too strong a case and that evidence which would fail to impress a jury sitting near the scene of an accident is swallowed hook, line and sinker by juries here.

It would be just as bad if St. Louis were considered a poor place in which to sue a railroad because juries favored the roads.

The Jennings bill which passed the House and was pending in the Senate at adjournment is designed to prevent the sort of thing that seems to have happened in St. Louis. Under its provisions, damage suits against railroads must be tried in a court having jurisdiction where accidents occur or plaintiffs reside. If it passes, St. Louis might lose its reputation of being a railroad-Reno—and good riddance.

—*The St. Louis Star-Times*

original total, were 14 and 15 months overdue for repacking. This reflects a highly undesirable condition, to state the case mildly.

It may be said that the general use of roller bearings in both freight and passenger service would automatically eliminate journal-box packing difficulties; but other problems, mechanical as well as economic, would arise. If, for example, railroads cannot find a practicable means of repacking 10.7 per cent of present journal boxes until 14 or 15 months after the due date, what assurance is there that roller bearings on homeless freight cars will be inspected and refilled with oil at the time required to insure continued reliable service?

The present extensive use of conventional journal bearings and packing, particularly in freight service, constitutes a real challenge to railroads to get the best results possible with the equipment. It is encouraging to note that the A. A. R., in conjunction with the Railway Service & Supply Corp., is now engaged in comprehensive research which promises to determine authoritatively the major oil and waste characteristics required for the most economical and efficient lubrication performance under widely varying climatic conditions. An associated objective is to establish closer limits in specifications and rules which can be generally adopted and so assure more uniformly satisfactory car-journal lubrication.

It will be of little value, however, to establish closer limits in packing specifications if railroads cannot live up to present limits and cannot even repack boxes on time. It is startling to find that more than a third of the cars examined in the study referred to were at least nine months overdue for repacking. The figures point to the need for positive action, primarily the building up of adequate freight-car-inspection and journal-box-packing forces, intensive education of both old and new men in correct procedures, provision of A. A. R. standard materials and, no less important, allowance of sufficient time with each car and train to do a thorough job of inspecting journal boxes and repacking, if necessary. Car department supervisors are aware of the importance of these objectives and should receive the hearty encouragement, support and help of mechanical department, operating and executive officers in attaining them.

BORN 100 YEARS TOO SOON

Secretary of the Interior Krug has announced the approval of regulations which permit the transfer of title of public-domain tracts to states, counties and municipalities for the establishment of public airports. The announcement pointed out that the administrator of the Civil Aeronautics Administration is authorized by the Federal Aid Airport Act to request the transfers; and it revealed that 20 such requests are awaiting Interior Department action.

Assistant Secretary Davidson was quoted as having said that the department "recognizes the vital contribution of air transportation to the nation's economy," and that it will "cooperate fully" in carrying out the public-domain-transfer provisions of the act. He called the approved regulations "an important achievement" in carrying out the aviation policy expressed in the act.

Here is the modern method of obtaining grants of government land to promote the extension of transportation facilities. The grants are made to public bodies which also build the facilities; and no *quid pro quo* is required from the beneficiary. Railroad transportation also received land grants, but they required rate reductions on government traffic, an arrangement which ended only two years ago after the railroads had thus returned to the government many times the value of the lands they received. Railroad transportation was born 100 years too soon.

ERIE RADIO INCREASES OPERATING EFFICIENCY

Installation on three adjacent divisions provides continuous end-to-end, train-to-wayside, train-to-train and station-to-station communication

As a means of increasing the dependability and overall efficiency of train operation and of providing additional safety, the Erie has made an extensive space radio installation on 347 mi. of main line between Marion, Ohio, and Salamanca, N. Y. As reported in *Railway Age* of July 31, page 52, the installation includes equipment in 14 wayside offices, 15 cabooses and 16 Diesel-electric locomotives. The locomotives are the double-end type, with complete radio equipment in each cab, making a total of 32 independent sets of locomotive radio apparatus now in service.

An outstanding feature of the installation is that any of the wayside offices can communicate by radio with adjacent offices in either direction, so that if sleet causes extensive damage to the pole line, communications can be handled by radio from one station to another along the entire route.

This project culminates nearly two years of extensive study and experimentation on the part of the railroad's communications and operating departments, and the Farnsworth Television & Radio Corp. Plans are now under way to extend the system west from Marion to Chicago, and east from Salamanca to Jersey City, N. J., which will complete the entire 999-mi. route between Chicago and New York.

How It Helps

The radiotelephone system is not employed for delivery of train orders, although operators along the line can instantly notify train crews of any last minute changes in orders, the exact location of a hot box, or other irregularity. This feature is especially important when weather conditions make it difficult for crews to see hand signals.

With a continuous means of communication between the conductor in the caboose and the locomotive engineer in his cab, there has been a substantial reduction in train delays and broken drawbars resulting from emergency stops in connection with hot boxes. The conductor and engineman can discuss problems and decide what action to take. The engineman can bring the train to a stop by applying the brakes from the front end and thus avoid a separation, which frequently results when the conductor, unable to contact the engineman, applies the air at the rear while the locomotive is still pulling. On July 27, at Polk, Ohio, for example, a sectionman saw a hot box on the thirty-sixth car of a train. He signalled the conductor on the caboose, who in turn notified the engineman to stop the train. This eliminated the necessity for the conductor to pull the air, and thus the possibility of the train being broken in two.

Communication between trains makes it possible for the crew of a stopped train to warn the crews of other trains in the vicinity, and also the dispatcher. For instance, also on July 27, a freight train slowed down and continued at low speed for some time. The conductor asked the engineman the reason, and the engineman replied that he was getting yellow "boards." The conductor then used the radio to find out what was ahead and received complete information, in a matter of seconds.

Train Expedited Out of Yard

The radio is also a great help in getting trains out of yards promptly. In one case, the brakes stuck on one of the rear cars of a perishable manifest train and prevented the train from starting east out of Marion. By means of the radio, the engineman inquired of the conductor on the rear of the train what the trouble was, and the conductor told him. The conductor notified the yard office by radio, and repairmen were dispatched to the scene promptly. A few minutes later the brakes were released on the car, and the train proceeded without the delay which might have been incurred if the radio had not been in service.

In another instance, train NY-98, handling considerable perishable traffic, passed "SN" tower at Leavittsburg, Ohio, with everything in order. Approximately five minutes later, the engineman advised the operator at "SN" tower by radio that the train had struck a tractor-trailer truck which had stalled on the crossing at Larchmont avenue, North Warren, Ohio. The train was traveling at a relatively low speed because of the grade, but the truck body was tipped over on its side and was obstructing the track ahead. The operator at "SN" tower promptly telephoned the North Warren yard office to notify the track supervisor, who went at once to the scene of the accident. Using a vehicle secured from a nearby industrial plant, together with heavy chains and cables, the truck body was pulled clear of the main track in 29 min. from the time the accident occurred.

Since the train involved was on a heavy grade, it was impossible to start it without assistance. By radio communication, arrangements were made through "SN" and "WN" towers for permission to back the train to the foot of the grade. In 15 min. additional time the train was able to start without assistance and proceed eastward with a total delay of only 44 min. It was estimated that a minimum of one hour was saved to this train by use of radio.

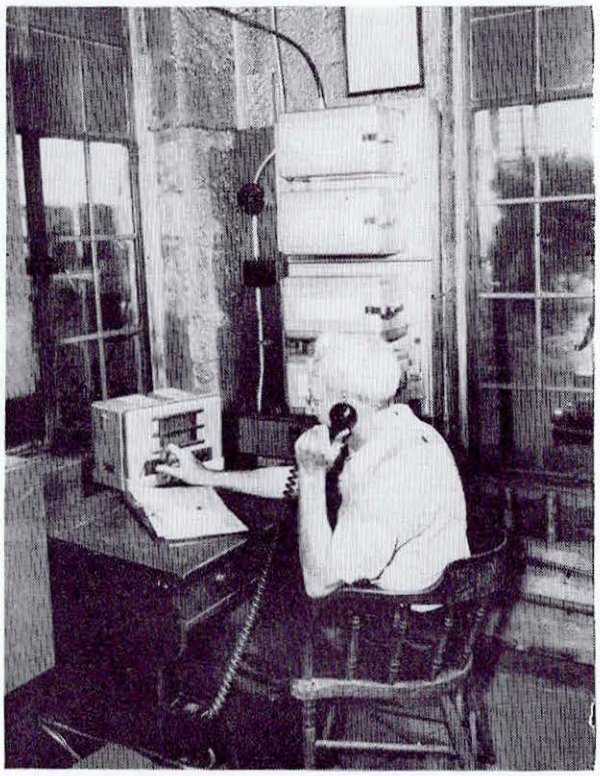
In another instance, several cars of train NE-98.

with considerable perishable traffic, were derailed two miles west of Creston, Ohio, due to a mechanical failure in a car truck. By instant communication with the operator at Creston tower, steam derricks were ordered from Marion and Kent, Ohio, within 12 min. after the accident. As regular telephone facilities were not immediately available, it was estimated that without radio approximately 45 min. would have been consumed in notifying the dispatcher and making arrangements for the derricks. Thus, a time saving of more than 30 min. was made. The speed with which the information regarding the accident was

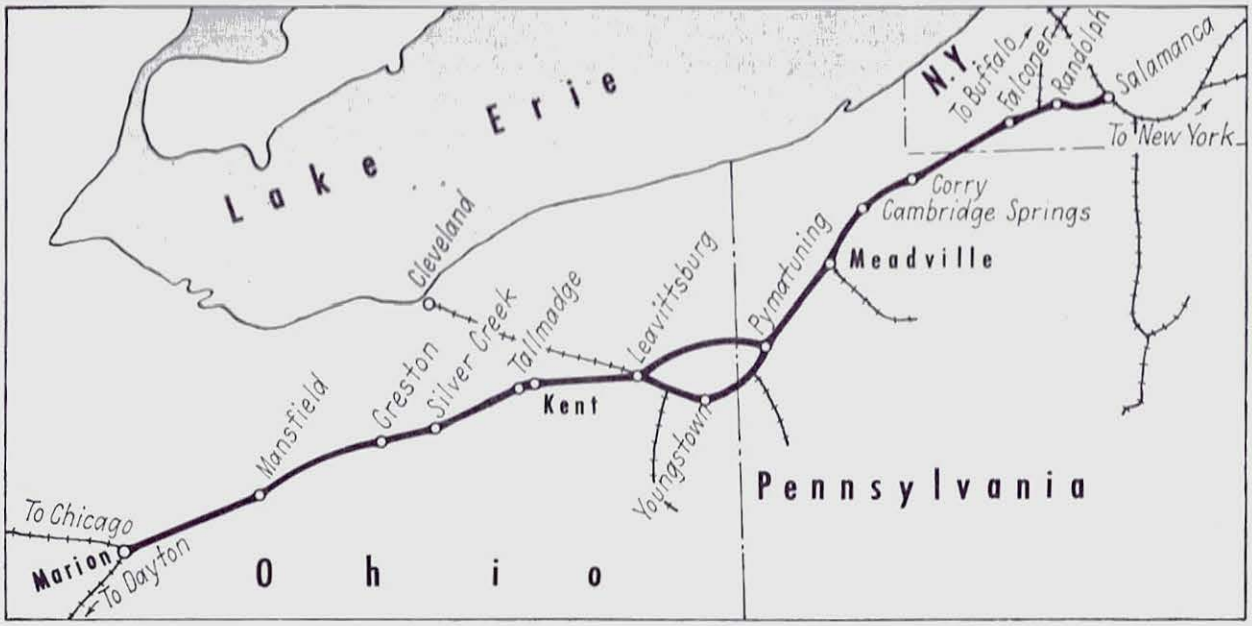
Engineman of Diesel-electric freight locomotive talking by radio to the conductor in the caboose at the rear of the train

Conductor in cupola of caboose using radio. Storage batteries for operation of the equipment are located in the battery box under the floor

Operator at a wayside office with radio control equipment talking by radio to the conductor on a train. He may also talk to adjacent radio-equipped offices



Conductor in the caboose of a freight train talking by radio to the operator at a wayside office



Map of the territory showing division points and wayside offices with radio control equipment

furnished to all interested parties not only expedited restoration of traffic over the railroad, but the direct communication maintained by radio with the scene of the accident similarly expedited the work of clearing the tracks for normal operation.

Characteristics of Territory

The installation between Marion and Salamanca involves three divisions—Kent, Mahoning and Meadville—which were selected first because they present all the complex problems encountered in freight and passenger train operations—heavy grades, curves, single and multiple track, and often unfavorable weather conditions. The Kent division extends 116 mi. east from Marion to Kent; the Mahoning division 129 mi. to Meadville; and the Meadville division 102 mi. to Salamanca. The dispatchers for these divisions are located at Marion, Youngstown, Ohio, and Salamanca, respectively.

Double track is in service for 277 mi. of the 347 mi. between Marion and Salamanca via Youngstown, and single track for the remaining 70 mi. — 28 mi. between Leavittsburg and Pymatuning, Pa., 6 mi. between Youngstown and Pymatuning; 26 mi. between Shenango, Pa., and Meadville, and 10 mi. between Waterboro, N. Y., and "RH" tower. Between Marion and Salamanca the railroad crosses five river valleys in which severe fog causes poor visibility during some seasons of the year. The maximum ascending grade in either direction in the territory is 1.1 per cent. Train movements are governed by timetable, train orders and automatic block signals or centralized traffic control.

The territory between Marion and Salamanca is part of the Erie's main freight and passenger route between the east and west, over which considerable perishable traffic is handled from Chicago for delivery to New York and the New England states. In addition, connecting freight and passenger traffic from Indianapolis, Ind., Cincinnati, Ohio, and Dayton via Marion, and from Cleveland, Ohio, via Leavittsburg to Buffalo, N. Y., via Jamestown and other points in the east is handled in the territory. Between Leavittsburg and Pymatuning, passenger trains are operated via Youngstown, but through freight trains are operated over a 28-mi. single-track cut-off, enabling them to bypass Youngstown and the extensive industrial area which surrounds that city. This cut-off is also equipped with radio.

Daily traffic in each direction between Marion and Salamanca averages one express, three passenger and 12 freight trains, with extras as required—an average of about 35 trains a day. The maximum tonnage handled ranges up to approximately 7,000 tons, with the exception of manifest freight trains, which range up to about 5,500 tons. Of the 16 radio-equipped Diesel-electric locomotives used in handling the traffic, 9 are assigned to freight service and 7 to passenger service.

Space Radio Equipment

Low-powered 15-watt space radio equipment is used for all communication between the head and rear end of trains, trains and wayside stations, different trains within the radio range, and between wayside stations. Walkie-talkies are also used by train crews as a regular part of their operating equipment. The equipment in each locomotive cab consists of a radio control unit with an attached hand set on the engineman's side, and a loud-speaker on both the engineman's and fireman's side. A similar control unit, hand set and loud-speaker are located in the center

of each caboose where they can be conveniently reached from the floor or cupola. A desk-type control unit with a built-in loud-speaker, and a separate handset are in service at each wayside control office. In either instance, the push-to-talk switch is pressed when placing a call and is released for the reply to come in over the loud-speaker. Two frequencies are utilized —160.05 m.c. for communication between the caboose and locomotives of a train or between trains, and 159.09 m.c. for communication between wayside offices and trains, as well as between offices.

Wayside Offices and Transmitters

There are fourteen 24-hour wayside offices where radio control equipment was installed, spaced approximately equal distances apart to give coverage over the entire 347-mi. route between Marion and Salamanca and the Leavittsburg-Pymatuning cut-off. Beginning at the west end they include Marion, Ohio, Mansfield, Creston, Silver Creek, Kent, Leavittsburg and Youngstown, Pymatuning, Pa., Meadville, Cambridge Springs, and Corry, and Falconer Junction (Jamestown), N. Y., Randolph and Salamanca.

The transmitters and antennas controlled by 10 of the wayside offices are located directly at those offices. On the other hand, the transmitters and antennas controlled by four of the offices are located several miles away, because of irregular terrain. For example, the transmitter for the wayside office at Mansfield is at Ontario, Ohio, 7.2 mi. distant, that for Creston at Polk, 18.1 mi.; and that for Kent at Tallmadge, Ohio, 6.0 mi. The transmitter for Corry is at Cambridge Springs, Pa., 27.4 mi. distant. To insure proper reception and transmission between trains and wayside offices along the entire route, adjacent transmitters, receivers and antennas were so located as to provide about a 5-mi. overlap in coverage.

Where radio transmitters are located a comparatively short distance from the 24-hour office, the transmitter is controlled over a separate pair of line wires. However, where the distance involved is very great, special inductive circuits are superimposed on the existing line wires, thus eliminating considerable cost in the installation of new wire. At the same time, protection is provided against failure of a transmitting station by induction on all wires, rather than on just one pair. Thus, a broken line wire or a short gap in the entire pole line due to a storm or some other reason will not affect the system.

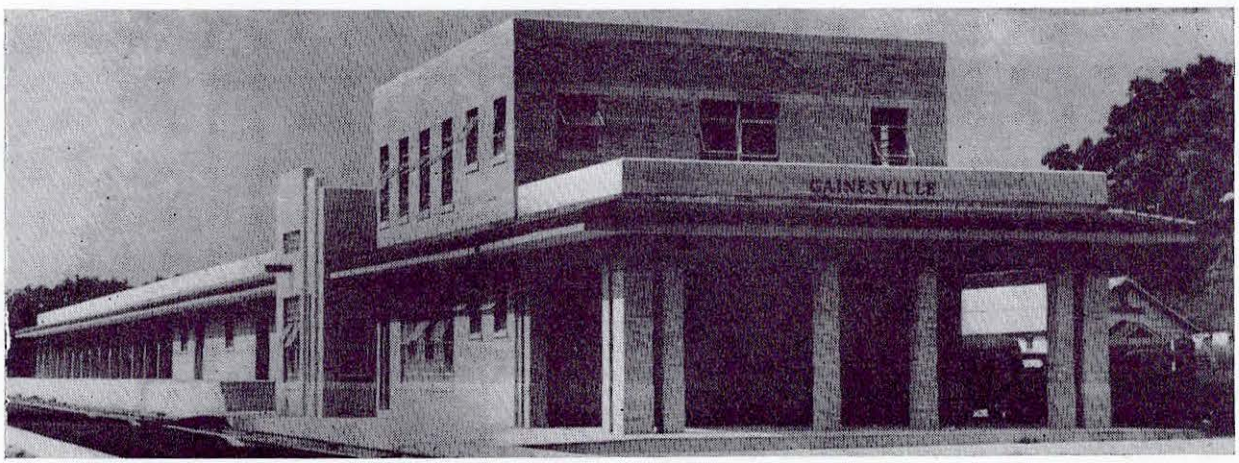
Mobile stations are normally tuned to the train-to-wayside frequency. The operator of a mobile station must depress a button on the control panel to use the end-to-end frequency for intra-train or inter-train communication. When the user of a mobile circuit is through using the end-to-end frequency, the transmitters and receivers automatically readjust themselves to the train-to-wayside frequency, thus eliminating the possibility of human error, which might result in mobile units not being on the train-to-wayside frequency when a 24-hour office calls a train within radio range of the wayside station calling.

When the train-to-way-side frequency is in use, other mobile units within range can use the end-to-end frequency for intra-train or inter-train communications, thus avoiding interference. Any station can communicate with adjacent stations in either direction, with the result that, in the event of wire-line prostration, an emergency radio relay communications network is always available along the right-of-way.

The dispatcher on any of the three divisions can, when necessary, talk to the conductor, engineman or other crew member on any train under his jurisdiction.

To do so, he calls the 24-hour operator's office nearest to the train on the dispatching telephone circuit. The operator then connects the dispatcher's circuit to the radio system and the necessary conversation may be carried on.

This project was planned and installed by Erie forces under the direction of F. H. Menagh, superintendent of communications. The radio equipment, furnished by the Farnsworth Television & Radio Corp., will be described in detail in an early issue of Railway Signaling. A description of the power supply equipment on the locomotives and cabooses will be published in a forthcoming issue of the Railway Mechanical Engineer.



New passenger and freight station of the Atlantic Coast Line at Gainesville, Fla.

Tie producers have turned largely to portable saw mills and other power machinery to get out present-day high-grade specification ties

CROSSTIE PRODUCERS AND USERS SWAP NOTES AT ANNUAL CONVENTION

Discussion of trends, changed conditions in the industry and suggestions for modification of present railroad specifications occupy record three-day meeting at White Sulphur Springs, W. Va.

What the railroads and the crosstie producing industry need from each other (and there seem to be many things) was the outstanding theme of the discussions at the thirtieth annual convention of the Railway Tie Association, held at the Greenbrier hotel, White Sulphur Springs, W. Va., August 30, 31 and September 1. With an attendance of producers and railway officers which exceeded 375, and a program notable both for its speakers and the breadth of subjects considered, this meeting was the largest and most successful convention held by the association since its organization in 1919.

What the railroads need from the tie industry was emphasized in an address by J. B. Akers, chief engineer of the Southern, at the opening session on August 30, and was not overlooked in an address at the same session by Dr. Julius H. Parmelee, vice-president of the Association of American Railroads and director of its Bureau of Railway Economics, who spoke on Railway Tie Trends and Prospects. What the tie producers need from the railroads was summed up in an address by Waldo E. Tiller, vice-president of Tiller Tie & Lumber Co. It was reflected also in the report of the association's Committee on Concentration Yards, of which Mr. Tiller was chairman, and in the report of the Committee on Specifications, of which E. J. McGehee, vice-president, Wood Preserving division of Koppers Company, was chairman.

Other features of the program, which embraced the problems of both the users and the producers, included the annual luncheon address by J. H. Aydelott, vice-president, Operations and Maintenance department, A.A.R.; emphasis on the importance of research in in the tie producing industry in addresses by J. A. Vaughan (Southern Wood Preserving Company) and C. Arthur Bruce (E. L. Bruce Company); the re-

port of the Committee on Manufacturing Practices, of which R. H. Hamilton (D. B. Frampton & Co.) was chairman; the report of the Committee on Mechanical Handling of Crossties, of which F. C. Jones (T. J. Moss Tie Company) was chairman; and two motion pictures—one titled "Tie Hack's Last Stand," presented by R. Van Metre (Wyoming Tie & Timber Co.), and another entitled "Then It Happened," which vividly depicted the devastating forest fires in Maine in 1947, that swept over approximately 220,000 acres. Still another important part of the convention was an exhibit of tie sawing, handling and doweling equipment, presented on the hotel grounds by 15 equipment manufacturers.

All of the sessions were presided over by D. B. Frampton, president of the association, and president of D. B. Frampton & Co., Columbus, Ohio. In the election of officers for the ensuing year, T. H. Wagner of Gross & Janes Co., St. Louis, Mo., was advanced from first vice-president to president; E. W. Jones of T. J. Moss Tie Company, St. Louis, was advanced from second vice-president to first vice-president; Walter P. Arnold of Koppers Company, Pittsburgh, Pa., was elected second vice-president; and the following members were elected to or continue on the Executive Committee: John H. Renfro of Taylor-Colquitt Company; R. H. White, Jr., of Southern Wood Preserving Company; J. H. Tabb of J. H. Tabb & Co.; W. E. Tiller of Tiller Tie & Lumber Co.; and D. B. Frampton, *ex-officio*.

Joint Responsibilities

In his address before the opening session, Mr. Akers, after pointing out the vital need for the railways, the greater demands being made on the track structure, and the greatly increased cost for all classes of track materials, said, "Under such conditions, how can we fail to talk about the improvement of materials to make them serve better and last longer?" He then told of the individual and cooperative efforts of the railways in the interest of improving materials and standards, but, admitting that many roads are not doing all they can to get the most out of ties, he continued in part as follows:

> They will purchase high-grade treated ties in which there are 25 or more years of life and then insert them under small tie plates—or no tie plates at all; use them under poorly maintained joints, on a curve out of line, or where there are other adverse conditions. The life of ties is often lessened by half or more by such methods. We on the railroads must get away from such practices.
>
> I have seen numerous places where excellent treated ties had to be replaced in less than 15 years merely because of rail and tie-plate cutting, or other bad conditions. We can't defend that sort of thing and don't attempt to.
>
> There have been instances where new rail has been laid on the same small tie plates that were in the track, and the resulting damage to the ties is very evident. Mechanical damage to ties as the result of rail and tie-plate cutting is enormous. It is the duty of the railroads to minimize this damage through the use of tie plates of sufficient size and proper balance, together with rail of sufficient size and generally good maintenance.
>
> Those in the maintenance-of-way departments are doing something about this, but, for various reasons—shortages of steel, high cost of work, or apathy and neglect—are not doing it fast enough.
>
> In extending the service life of ties by reducing mechanical wear, the tie producers, at present, can do little. That is the job of the railway maintenance man, who must become more tie conscious; who must use large and well-balanced tie plates; and who must use a weight of rail to suit traffic conditions. The time is long since past when small plates, poorly balanced, can be used in main-line track, unless the railroads are willing to suffer large increases in costs and lay themselves open to the charge of ignoring simple conservation methods.

Mr. Akers told the tie producers that, working alone and with other associations, they had cooperated "handsomely in the production of better ties, in improving specifications, and in getting out ties during favorable weather." "But," he said, "you have another duty and obligation which I think is imperative." Continuing, he said in part:

> You must take part in improving the physical characteristics of crossties. Little has been done to do that. It is no secret that a tie has a way of splitting, checking or becoming soft. We have assumed that, since wood is a natural product, nothing could be done to improve it, and that when it dries out, or seasons, it will simply split and check—and that nothing can be done about it. True, the wood preservers have studied various methods of stacking ties, painting the ends, and inserting anti-splitting devices. These things have brought some improvement, but not enough.
>
> I can't tell you how to make a pine tie harder in the rail-bearing area, or how to stop or retard splitting and checking, but I am firm in my conviction that there is enough ingenuity and enough interest in the hearts of men to bring about these needed improvements. Think what it would mean in the conservation of resources and in the reduction of the expenses of the railroads. if we could lick this problem and increase the life of ties by even four or five years. These things are receiving some attention, but we need to find the answers quickly and start reaping the benefit.

What the Tie Industry Wants

Taking the subject What the Crosstie Industry Needs from the Railroads, Mr. Tiller spoke in detail of the conditions in the tie industry. He said that the first requirement of the industry at present is stability of demand from the railroads, with resultant stability in tie production. Offering several suggestions to help bring about that stability, he urged the development and adoption of "some other method of purchasing ties than by pricing in relation to the five (A.R.E.A.) grades." As to what the railroads can do in the matter of stabilizing purchases and production, Mr. Tiller said in part:

> Railroad managements should program their annual requirements well in advance and then allow their purchasing departments to place orders with responsible producers for a definite number of ties to be delivered over a period of more than one year ahead. This would allow the tie companies, in turn, to acquire sufficient standing timber and to maintain an adequate mill organization to produce the ties required.
>
> This method, if followed over a five- to 10-year period, would certainly save the railroads money. Proper adjustments could be made at yearly intervals, or at other agreed periods of time, on prices or quantities to take care of changing conditions.
>
> Possibly the railroads could report at regular intervals to some department of the Association of American Railroads, or to some committee of the A.R.E.A., giving that agency the number of seasoned ties on hand, the number of treated ties on hand, the number of ties required for use in tracks for the coming six or twelve months, the number of ties received during each quarter, and the number of ties on order for future delivery. At the same time, I am sure the producing companies of the

tie industry would report to the same agency their production stock on hand, and unfilled orders by quarters.

This information could be compiled and furnished in total form, without disclosing in any way the position of any individual railroad or of any individual producing company. This method would give our customers the information they need to plan their requirements on a basis where there would be some assurance as to the kind of ties produced and when they would be available for insertion in track. Second, it would allow the tie producing companies to plan their production on the basis of requirements, and eliminate, or minimize, the peaks and valleys in our industry.

Regarding the need of the tie producing industry for some other method of purchasing ties than by pricing in relation to the present five A.R.E.A. grades —which grades, he said, get both the railroads and the tie industry in hot water in the field—Mr. Tiller said in part:

It is not my idea to change the specifications in regard to defects or minimum or maximum measurements. I do not propose to eliminate the basic fundamentals of good ties. I think all ties should be manufactured from good, sound, live, growing timber, with no rot, and limited as to split, shake, crook and grub holes. But I do think ties could be classified as to 6-in. side-track or 7-in. main-line, regardless of length. All ties should have a minimum measurement through the body of the tie; either the full 8 in. or the full 9 in. Also, all ties should be full 6 in. or 8 in. thick, with the usual tolerance of 1 in. over or under for length.

The only change I propose is that 6-in. side-track ties be manufactured and sold within the above limits with a minimum face measurement, and that main-line 7-in. ties be sold with a minimum face measurement, with all of the dimensions full size, as mentioned above.

This method of selling would eliminate the possibility of over-grading ties from No. 4 to No. 5 or from No. 2 to No. 3, by either the tie producer or the railroad in order to enjoy an advantage over a competitor for a given period of time. Under our present system, if a tie is degraded, or over-graded, just one grade, it means the difference between ten cents and fifteen cents per tie. This over-grading and under-grading is usually the result of ¼ in. of wane, more or less, at any particular point on any particular tie. Under present specifications, any inspector or yard buyer has the opportunity of raising or lowering the grade, and thereby affecting the price. Personally, I think these specifications (A.R.E.A.) attach too much importance to face measurement of ties as they are manufactured today. Most all ties are adzed before they are inserted in the track, and if the body and thickness of the ties are sufficient, the rail bearing will take care of itself.

Under my proposal, the inspector will have ample time to examine the ties thoroughly for defects and for full thickness and body measurements, and will classify them as either main-line or side-track ties. This would eliminate the possibility of raising them from one grade to another, with the consequent effect on price.

Relief Needed from Present Specifications

Supplementing in many respects the personal opinions expressed by Mr. Tiller relative to the need for some relief from present tie specifications, the Committee on Specifications, of which Mr. McGehee was chairman, directed attention to the changed conditions in the tie producing and railway industries over the years, which have a bearing on this matter. It pointed out that actual specifications in use around the turn of the century and for many years following meant little. Inspection was a matter of individual judgment. To some degree, it said, that was also true during World War II, when the demand for ties greatly exceeded the supply.

In any event, the committee said, tie specifications of 30 to 50 years ago did take into account the fact that high quality timber was plentiful and cheap. Labor also was also plentiful and cheap. Contrast the conditions of that time, it said, with those of today.

The committee was not unmindful of the newer problems of the users, directing attention to the heavier equipment and higher speeds involved in present-day train operations, but, on the other hand, it indicated that these factors are being offset to some degree through the use of better ballast, larger tie plates and heavier rail.

The committee fully recognized the right of the purchaser to specify whatever he desires, but it suggested that both the purchasers and producers of crossties assume an open mind in the matter of modifying specifications, to the end that all concerned, including shippers and the general public, may be benefitted by such changes as may be justified in specifications and inspection practices.

The committee expressed the belief that changes in standard railroad specifications, to ease the problems of supply and to conserve timber, would favorably affect price tendencies and would not, in application, impair the serviceability of ties or diminish their service life.

Larger Tie Requirements Ahead

In a comprehensive review of tie trends and prospects, Dr. Parmelee pictured the tie renewals of recent years as being inadequate to satisfy requirements, and said that this was the result of a number of adverse factors. He predicted larger renewals in the years immediately ahead as these factors are removed or modified.

Looking at the past, he pointed out that, whereas the *potential* market for crossties had remained fairly constant since 1927, the *actual* market in various years, as represented by the actual number of ties laid in replacements or in new track, had varied widely. In the prosperous years of the Twenties, between 1921 and 1930, the average number of crossties laid was about 83 million per year; during the depression years 1931-1940, the average declined to 45 million per year; between 1941 and 1947, the annual average was 47 million; and during 1946 and 1947, the number laid was about 40 million each year.

Dr. Parmelee showed that the annual average expenditure of the Class I roads for ties (not including their installation in track, transportation over the purchaser's own lines, and certain other items) was $110.2 million per year from 1921 to 1930, $51.8 million per year from 1931 to 1940, and $84.5 million per year from 1941 to 1947.

To show how the trend in expenditures for ties has strayed from the trend in the number of ties laid, Dr. Parmelee pointed out that, whereas the ties laid per mile of track in 1927 and 1947 were 222 and 112, respectively, a decrease of about 50 per cent, the expenditures for ties laid per mile of track averaged $301 in 1927 and $270 in 1947, a decrease of only 10 per cent.

"I do not believe the present low levels of tie re-

placements are representative of the forthcoming needs of the railroads," Dr. Parmelee said. "Certain adverse factors are present in the current situation that are unusual and temporary. For example, the inability of the railroads to obtain their normal steel requirements has held up the installation of much new rail. The rail program of the carriers is behind schedule to the extent of two million net tons or more. Also, there have been some shortages in maintenance-of-way labor, and other handicaps have tended to retard the usual maintenance program. Furthermore, ties themselves have, in some instances, not been too plentiful."

Still another deterrent to adequate tie renewals, Dr. Parmelee said, has been the financial condition of the carriers. He pointed out that, although carrying all-time peak traffic since the close of the war, the railroads earned an average of only 3.1 per cent on their net investment during the years 1946 and 1947—due to the sharp up-turn in railroad costs compared with a relatively smaller uptrend in revenues.

A.A.R. Research on Ties

The speaker indicated, however, that the future contains encouraging factors as well as problems. "There are indications," he said, "that the national economy will operate at high levels for at least a year ahead. If the railroads continue to carry a large volume of traffic, total revenues should attain relatively high levels which, in turn, would make it possible to allocate larger expenditures for tie renewals."

Speaking at the annual luncheon, Mr. Aydelott spoke of the research being carried on by the railroads to improve their physical properties. He ended with the plea for fair dealing with the railroads—assuring his hearers that, given access to the necessary essential materials and allowed to earn an adequate return on their investment, the railroads would meet all demands made of them and be ready for any future national emergency. He said in part:

> The wood crosstie has continued popular with the railroad industry to this day because its cost has been less, all things considered, than that of any substitutes. However, with the price of ties, of treating materials, and of tie plates increased to present levels, the cost advantage held by the wood tie is disappearing. We may anticipate under these circumstances renewed activity in the field of substitute ties, at least involving those types which may be suitable for yards and sidings.
>
> The railroads have explored and will continue to explore every known means for extending the life of crossties. They will go forward with intensive research in seeking still further ways to operate and maintain their properties at lower cost, realizing at the same time the necessity for improving their service to the public.
>
> The A.A.R., on behalf of the industry, has three research projects in progress of particular interest to men in the tie industry. In one of these projects, study is being given to the best design of tie plates for protecting the tie. The second pertains to tie plate fastenings. The third, and most important, is a cooperative one with the National Lumber Manufacturers Association, the expense of which is being shared equally. This third research project is being directed by an advisory tie research committee composed of five representatives of the railroads and five from the lumber manufacturers. The work is being conducted in the laboratory of the Timber Engineering Company, although it may be expanded into other laboratories if circumstances warrant.
>
> It is anticipated that this research will include studies of means of treating the surfaces of ties to prevent change in moisture content; perhaps improved methods of preservative treatment, including the utilization of supersonic vibrations; means of hardening the tie plate bearing surface; possible use of laminated wood; and consideration of special designs of ties assembled by glueing. The exact lines which this research may eventually take can hardly be foreseen at this time as we are going into it with an open mind, with the intention of exploring all possibilities for improvement in tie performance.

Concentration Yard

In the report of the Committee on Concentration Yards, of which W. E. Tiller was chairman, six suggestions were made to improve conditions and handling methods at concentration yards. Those of particular interest to the railways, or directed specifically to them, are, briefly, as follows:

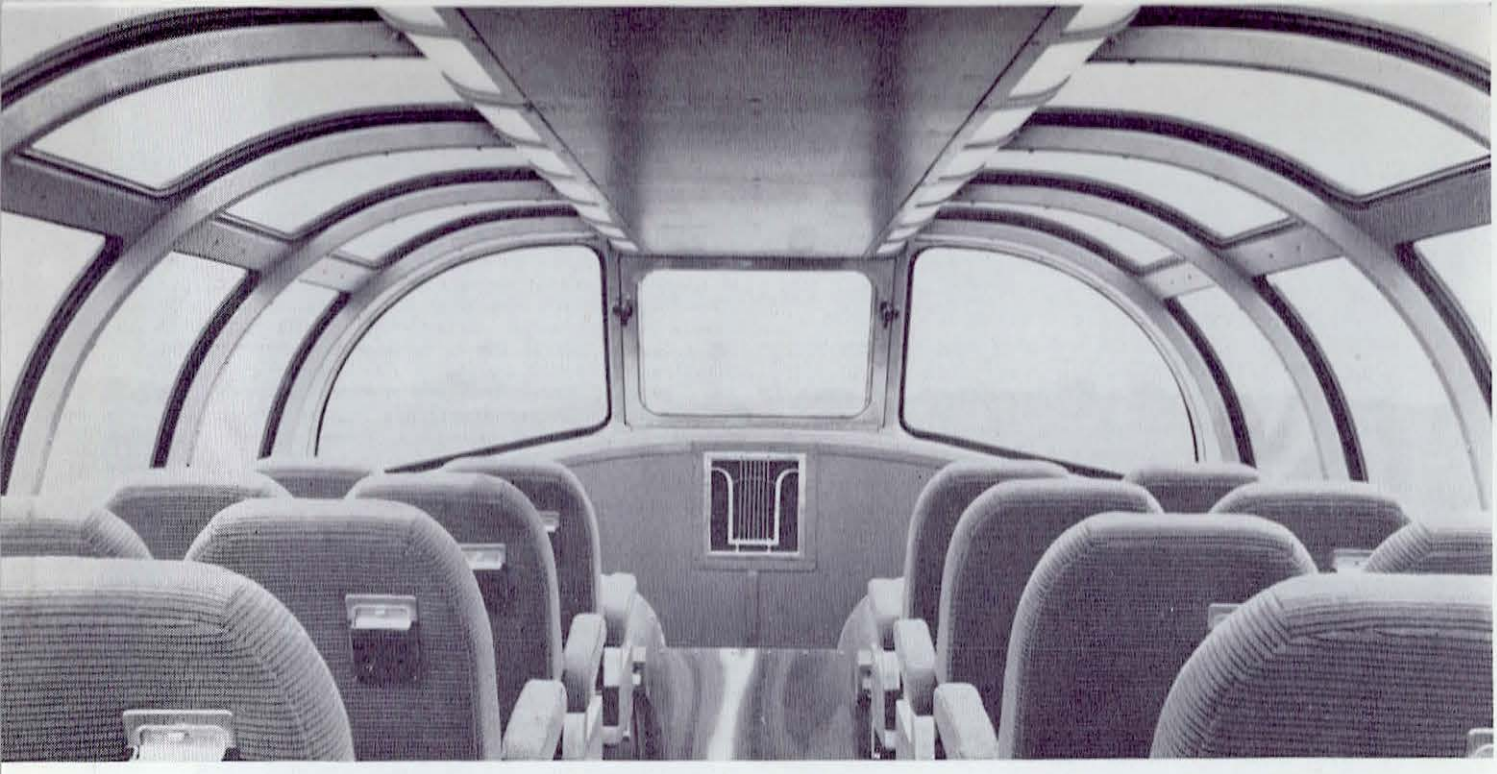
(1) That all companies maintaining yards should make a determined and continued effort, starting immediately, to improve and maintain the proper grading of ties.

(2) That a uniform system of tie separation should be recommended that will meet a majority of the loading procedures on the various railroads. We think that our railroad friends, through their various forest products committees, should agree on some standard plan of loading ties of specific species and sizes and pass it on to our industry with their recommendations. If this could be accepted by our industry, then a definite plan of yarding could be set up that would result in several benefits to all concerned.

(3) That everything be done toward more ties per inspector per day. We recommend that ties be separated and yarded properly, that ties be ordered well in advance, and that loading work be planned in an orderly manner to eliminate unnecessary delays in travel from one yard to another, with the idea of securing the maximum loading each day.

(4) That the railroads permit the shipping of occasional mixed cars to clean up small yards where ties have become old and need loading.

Installing flameproof cotton insulation in the cab of a Diesel-electric locomotive



Interior of the dome

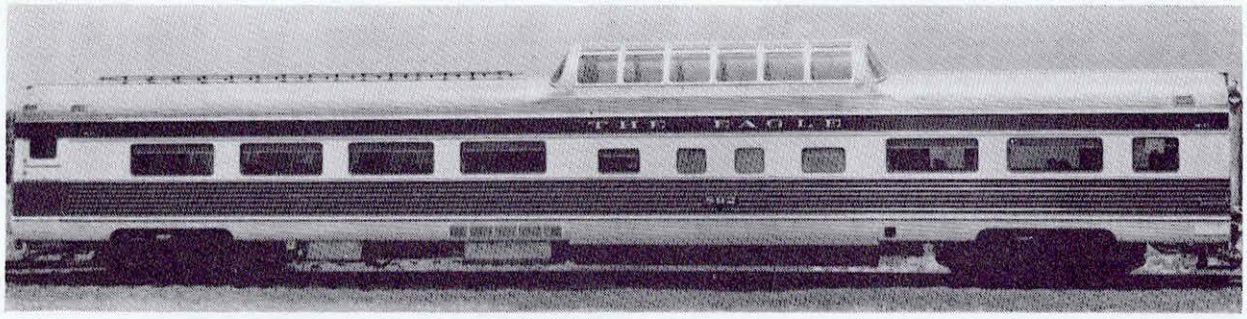
DOME COACHES FOR "EAGLE" TRAINS

The corridor under the dome in the dome car showing the ramp at the end and doors to the lounges on the right

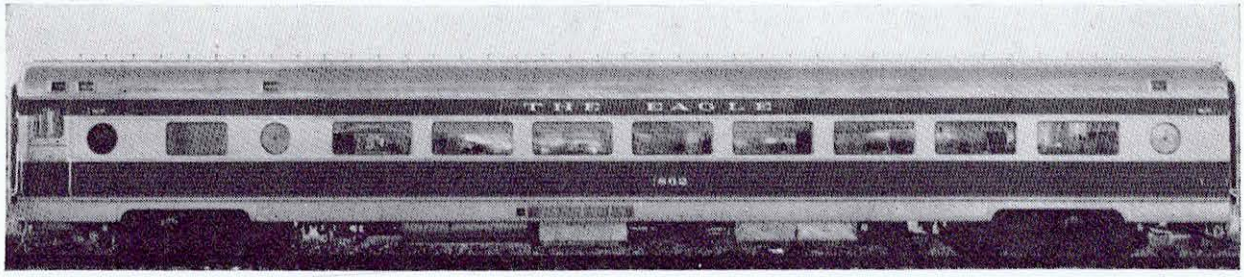
The Missouri Pacific, during the summer, has received from the Budd Company three 70-passenger "planetarium" dome coaches and three 64-passenger coaches. These cars are for assignment to the "Colorado Eagles," which have been in service since June, 1942, and to other "Eagle" trains. Together with four de luxe coaches, two diner-lounge cars and six cabin-bedroom cars for later delivery, they are part of the 134 new car program of the Missouri Pacific and Texas & Pacific, set forth in the August 14 *Railway Age*, page 64. Except for one of the de luxe coaches, all of the Budd-built cars will belong to the Missouri Pacific.

In exterior appearance these cars conform to the "Eagle" cars received from other builders. The roof and ends are unpainted stainless steel. The letterboard is blue, separated from the roof by a band of cream on the roof rail. The window panel is gray and the side below the windows blue, with the gray repeated on the skirt. The belt rail is unpainted stainless steel and the cream is repeated on the skid rail, between the side of the car and the skirt.

The planetarium dome coaches have three passenger rooms, two at the usual floor level, and the third in



One of the planetarium dome cars for the "Colorado Eagle"



The 64-passenger coach built by Budd

Missouri Pacific passenger-car deliveries include three of these and three 64-passenger coaches of Budd stainless-steel construction

the dome over the middle portion of the car body. These cars have vestibules at one end only. The longer of the two lower rooms is at this end of the car and seats 28. That at the opposite end seats 18, and the dome, 24.

The Planetarium Dome Cars

In the general arrangement of the interior these cars are similar to the dome cars built by Budd for the Chicago, Burlington & Quincy. Looking toward the dome from the vestibule end of the car, there are eight double seats on the right and six on the left. Space is thus allowed for entrance to the corridor on the left and for the stairway to the dome. The corridor extends along the low floor under the dome and from it open the men's and women's lounges and toilet facilities. At the opposite end of the car, looking toward the end, there are five double seats on the right and four on the left where the under-dome corridor enters the smaller passenger room. The inner end seats on the corridor side of both rooms are separated from the corridor by partitions which extend out 42 in. from the side of the car. The dome has six double seats on each side of the aisle.

The floor level under the dome is dropped 19¾ in. below that of the normal elevation of the end passenger rooms and the ceilings over the corridor are 6 ft. 5 in. high, with a minimum height in the men's and women's lounges of 6 ft. 3-3/16 in.

Ramps at the end of the corridor connect the two floor levels. The overall height of the dome is 15 ft. 10 in. above the rail — 2 ft. 4 in. higher than the remainder of the car roof.

On one side of the central aisle at the vestibule end of the car are luggage shelves with a radio cabinet above; across the aisle are the lamp-regulator and control lockers. At the other end of the car are two lockers for tables and linen. A water cooler is placed in the corner alongside the stairway to the dome.

The seats in the two lower passenger compartments are rotating reversing, with individually reclining backs. Those in the dome are rotating reversing, but nonreclining. All were furnished by S. Karpen & Bros.

The 64-Passenger Coach

Like those built by American Car & Foundry Co., the Budd-built 64-passenger coaches have a women's lounge and annex and a men's washroom at the vestibule end of the car, and men's and women's wash-

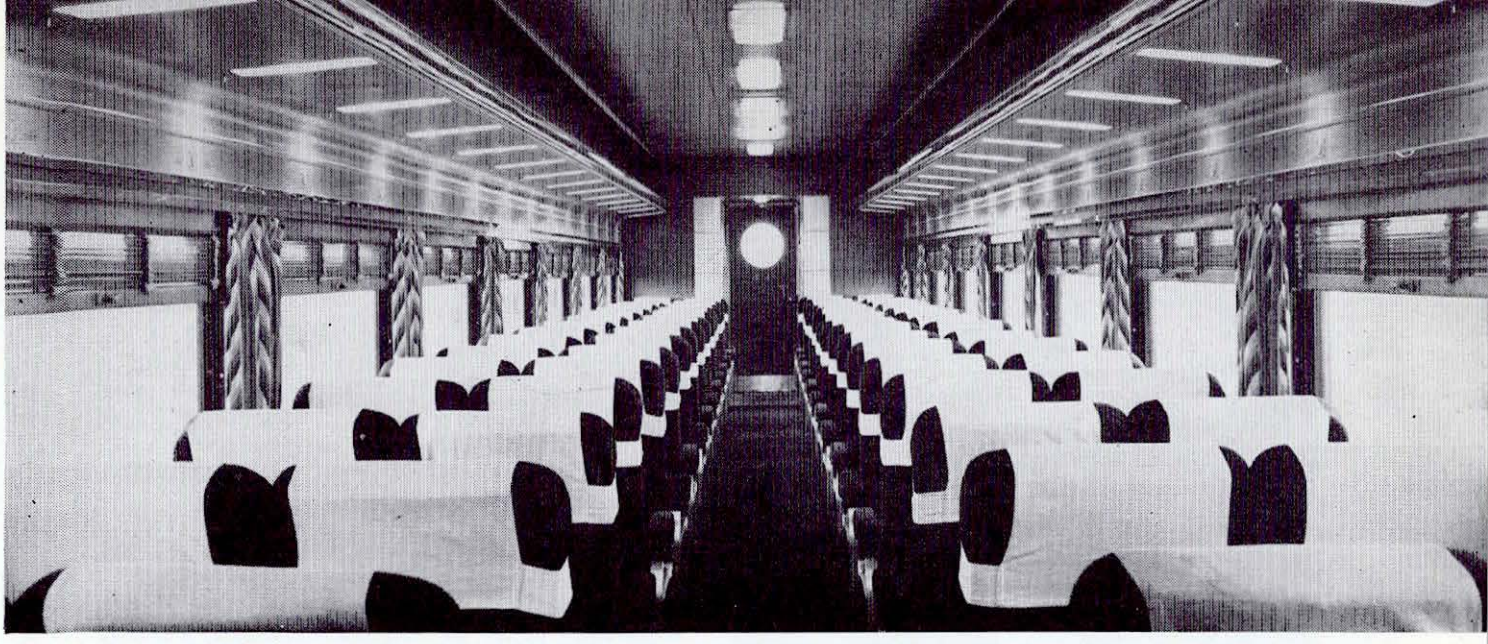
The stairway to the dome. Entrance to the under-dome passageway is at the left

rooms on opposite sides of the central aisle at the other end of the car. While not permanently partitioned, these cars may be divided by removable curtains extending out from the sides of the car to the aisle to separate seats for 40 persons at the vestibule end of the car from seats for 24 at the opposite end.

Regulator locker and switch locker are at opposite ends of the corridor beside the women's lounge. Be-

Partial List of Materials and Equipment on the Budd-Built Missouri Pacific "Eagle" Cars

Truck castings; bolster stabilizer	General Steel Castings Corp., Eddystone, Pa.
Truck sound deadening	Thermoid Co., Trenton, N. J.
Wheels, axles, equalizers	Bethlehem Steel Co., Bethlehem, Pa.
Journal boxes	Timken Roller Bearing Co., Canton, Ohio
Couplers and yokes, uncoupling mechanism	National Malleable & Steel Castings Co., Cleveland, Ohio
Draft gear	Waugh Equipment Co., New York
Center pin	W. H. Miner, Inc., Chicago
Brake shoes	American Brake Shoe Co., New York
Side bearings	American Steel Foundries, Chicago
Shock absorbers	Houde Engineering Div., Houdaille-Hershey Corp., Buffalo, N. Y.
Swing hanger and crossbar	Canton Drop Forging & Mfg. Co., Newark, N. J.
Swing hanger pins	Bard Manufacturing Co., Royersford, Pa.
Truck brakes	American Steel Foundries, Chicago
Hand brake	National Brake Co., New York
Air brakes, air-brake signal hose, water raising system	Westinghouse Air Brake Co., Wilmerding, Pa.
Step box	Morton Manufacturing Co., Chicago
Step well mechanism	O. M. Edwards Co., Syracuse, N. Y.
Step treads	American Abrasive Metals Co., Irvington, N. J.
Diaphragm	Adams & Westlake Co., Elkhart, Ind.
Insulation, body	Gustin-Bacon Mfg. Co., Kansas City, Mo. Johns-Manville Sales Corp., New York
Insulation, sound-deadening	J. W. Mortell Co., Kankakee, Ill.
Insulation under center plate and side bearings	United States Rubber Co., New York
A.c. standby, control trainline, battery-charging, and trainline receptacles; battery trainline jumper	Pyle-National Co., Chicago
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
Genemotor; motor alternator	Safety Car Heating & Lighting Co., New York
Genemotor drive	Spicer Mfg. Corp., Toledo, Ohio
Wire	Kerite Insulated Wire & Cable Co., New York
Air conditioning	Frigidaire Div., General Motors Corp., Dayton, Ohio
Air distributors	Pyle-National Co., Chicago
Air filters, mechanical	Farr Co., Los Angeles, Calif.
Blower fans	Safety Car Heating & Lighting Co., New York Westinghouse Electric Corp., Sturtevant Division, Hyde Park, Boston, Mass.
Cooling control panel; heating system, hot water; steam-heat coupling; end valve	Vapor Heating Corp., Chicago
Steam-pipe insulation	Johns-Manville Sales Corp., New York
Lamp regulators; light fixtures; main lighting switch panel; luggage racks	Safety Car Heating & Lighting Co., New York
Radio	R.C.A. Victor Div. Radio Corporation of America, Camden, N. J.
Window sash; window shade mechanism; vestibule curtains	Adams & Westlake Co., Elkhart, Ind.
Window-shade material	Pantasote Co., New York
Window glass	Pittsburgh Plate Glass Co., Pittsburgh, Pa. Pressed Prism Plate Glass Co., Morgantown, W. Va.
Window-sill plastic	Westinghouse Electric Corporation, Pittsburgh, Pa.
Venetian blinds	Ajax Consolidated Co., Chicago
Flooring, vestibule; footplates	American Abrasive Metals Co., Irvington, N. J.
Flooring, rubber	Goodyear Tire & Rubber Co., Akron, Ohio
Carpet	Chas. P. Cochrane Co., Bridgeport, Pa.
Foot plate	Morton Mfg. Co., Chicago
Seats	Coach & Car Equipment Co., Chicago S. Karpen & Bro., Chicago
Seat covering	Goodall Fabrics, New York
Stools, dressing table	S. Karpen & Bro., Chicago
Tables	General Fireproofing Co., Youngstown, Ohio
Table tops	Formica Insulation Co., Cincinnati, Ohio
Ash receptacles, wall type	Adams & Westlake Co., Elkhart, Ind.
Draperies	Basset McNabb Co., Philadelphia, Pa. J. H. Thorp & Co., New York
Mirrors	Nurre Companies, Bloomington, Pa.
Coat and hat hooks	H. S. Getty & Co., Philadelphia, Pa.
Locks and general hardware	Jas. L. Howard & Co., Hartford, Conn.
Door closers	Norton Lasier Co., Chicago Yale & Towne Mfg. Co., Stamford, Conn.
Fire extinguishers	Pyrene Mfg. Co., Newark, N. J.
Lavatories	Crane Co., Chicago
Hoppers	Duner Co., Chicago
Lavatory dispensers	Scott Paper Co., Chester, Pa. West Disinfecting Co., Long Island City, N. Y.
Water coolers	General Electric Co., Schenectady, N.Y. E. A. Lundy Co., New York
Drinking-cup dispensers	Ajax Drinking Cups, U. S. Envelope Co., Springfield, Mass.
Paint:	
Exterior	E. I. du Pont de Nemours & Co., Wilmington, Del.
Interior	Pratt & Lambert, Inc., Buffalo, N. Y.



Looking toward the stub end of the 64-passenger coach

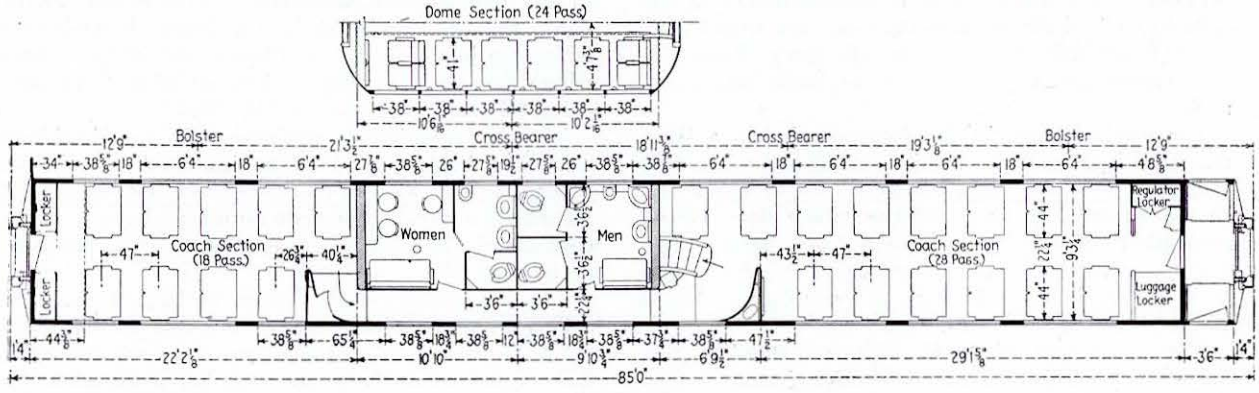
tween the regulator locker and the passenger room is a locker for table and pillow storage. Water coolers are set in the partitions on the aisle side of the men's annexes at opposite ends of the car.

The interior decorations of the cars of both types follow a general scheme which has been applied to all of the coaches. It is predominantly blue, silver and cream with touches of other colors. The main passenger rooms of both types are finished in light cream on the middle Multi-Vent ceiling panels. The side ceilings down to the bag racks, the under side of the bag racks, the frieze panel, and the pier panels are light blue. The frieze molding is stainless steel with a stripe of light plum in its middle recess. The wainscot at the sides and all of the end bulkheads are dark blue, as is also the background of the two-tone upholstery and the two-tone carpet. Venetian blinds are opalescent silver, and opalescent silver panels outline the sides of the openings in the bulkheads. These colors are enlivened by a pattern of red stripes in the predominantly blue drapes at the sides of the windows. Window sills are black molded plastic in a satin finish. The removable curtains which divide the passenger space into two parts, are beige.

Looking toward the vestibule end of the car from the passenger compartment, the women's lounge bulkhead is decorated with the road's eagle emblem in opalescent silver in a band of blue at the top, with a deep opalescent silver panel below and a wainscot of stainless steel. The plum of the frieze stripe is repeated on the inside of the end doors.

The ceiling and the carlines of the dome of the planetarium dome coach are finished in pink, and the wainscot at the sides and above the stainless steel on the ends, in light plum. The upholstery is ashes of roses and the carpet, two-tone blue. The stairway bulkhead at the dome and the sides of the stairway are dark blue. The insides of the stair sides are finished with gun-metal vinyl covering, morocco finish. The handrail is stainless steel. The dome bulkhead at the other end of the car is opalescent silver with a stainless steel wainscot.

The ceilings of the passageways of both cars are light yellow with a dark blue frieze. Both sides of the passageways are opalescent silver down to the low stainless-steel wainscot. Doors in the passageway partition are the same as the sides with narrow stainless kick plates. Window shades are figured Pantasote,



Floor plan of the planetarium dome coach

In the ladies' lounge

light tan inside and silver outside. The rubber floor tile is marbelized in light blue and gray.

The women's lounges in both cars are alike. Ceilings are light cream and the partition walls pink. The outside wall between and below the windows is finished with a Meyercord transfer in bleached mahogany. Venetian blinds are opalescent silver, as they are throughout the car, the upholstery is ashes of roses in two tones and the door drape is rust. Floors are a two-tone blue marbelized rubber with a white border. Mirrors in the lounges and in the washroom at the opposite end of the 64-passenger car are tinted flesh color. Wash and dental basins are ivory. Floors of the annexes and washrooms are off-white marbelized rubber.

The men's lounge in the dome coach has a light cream ceiling, light blue partition walls and a bleached mahogany transfer on the outside wall. The upholstery on the settee is in gold and the rubber floor tile is marbelized light red-gray with a black border. The men's washrooms in the 64-passenger coach are the same as the lounge. Mirrors are uncolored. Dental and wash-basins are ivory.

These cars are of Budd Shotweld stainless-steel construction. This includes the underframe, except from the bolsters outward, which are weldments of alloy steel, to which the stainless-steel center sill is riveted inboard of the bolsters. They also include end-sill collision-post connections and coupler carriers.

The stainless-steel center sill, which normally extends between the bolsters, is interrupted at the structural partitions at the ends of the depressed floor under the dome of the dome cars. The load is transferred three ways: to a wide, shallow center sill welded at each end to the underside of the normal center sill; and by a heavy floor structure a part of the load is transferred to a heavy side sill on each side of the car.

The dome structure consists of box-section carlines which are divided into upper and lower members across the center of the roof. The air duct for the dome space passes between these members. The roof over this portion of the dome is flat stainless-steel sheet. Longitudinal members divide the space between carlines on each side in two parts, which are closed with rubber-mounted, double, curved-glass windows. Reinforced side plates carry the roof loads past the dome part of the car.

The car floors are transverse stainless-steel pans welded to the center sills and braced by two cross beams spaced approximately equally distant between the bolsters and attached at the sides to the side sills. Inside of these pans is sprayed a ⅛-in. coat of Insulmat and on this is laid 3½ in. of insulation. Above this is a plywood subfloor covered with the finished floor treatment.

Insulation in the roofs, sides and end walls is 3 in. thick; that about the air ducts is 1 in. thick. In the coaches the insulation is Fibreglas; in the dome cars, Stonefelt.

Partitions are of two types. Some are built up on frames of rectangular steel tubing sheathed on both sides with stainless-steel on aluminum. Others are of Plymetl. Insulmat is applied on the inside of the sheathing of the hollow partitions.

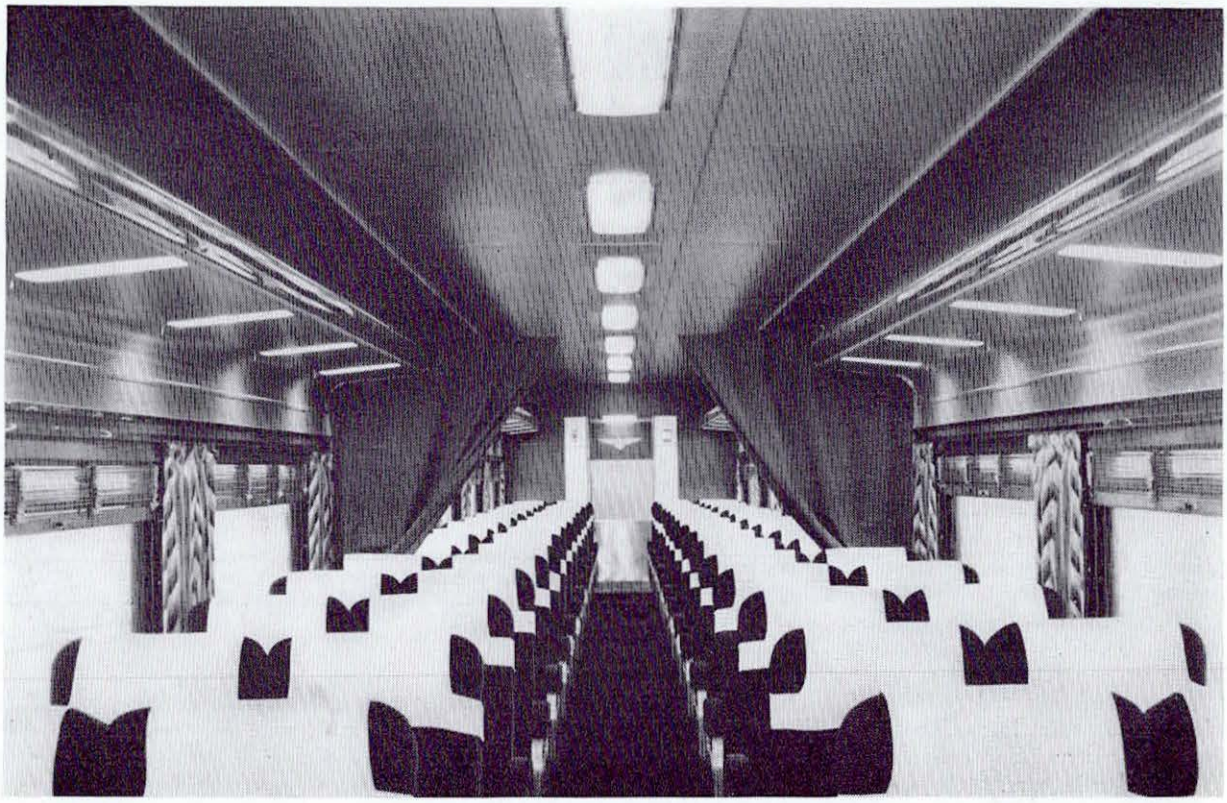
These cars have breather type sash.

Electrical Equipment

With few exceptions the lighting in both cars is fluorescent. This is arranged in rectangular fixtures along the center of the ceiling and in transverse units under the bag racks in the main passenger rooms. In the dome, the lights are located longitudinally alongside the ceiling. Fluorescent lights are installed in the passageways and lounges. Incandescent lamps are used in the annexes and washrooms. Fluorescent mirror lights are also provided in the latter. Incandescent lamps are in use in the vestibules, and in the lockers where they are operated by door switches. The fluorescent lighting operates at 110 volts.

The air-conditioning equipment is the Frigidaire electro-mechanical type. Capacities are 8 tons in the coaches and 10 tons in the dome cars. The equipment includes full-flooded condensers which have a water capacity of 170 gals. and evaporate 16 gals. per hour at full capacity.

The evaporator in the coach is located over the ceiling at the vestibule end of the car. In the dome coach two evaporators are placed over the ceiling at the vestibule end of the car. One has a capacity of 6 tons and serves the lower floor of the car. The other



Looking toward the vestibule end of the 64-passenger coach. The curtains for dividing the car are removable

has a capacity of 4 tons and cools the air for the dome. Circulation in the coaches is 2,400 cu. ft. per min. On the main floor of the dome car the circulation is 1,800 cu. ft. per min.; in the dome, 1,000 cu. ft. per min. Fresh air constitutes 25 per cent of the total air delivery.

Electric power for the 64-volt incandescent lighting and the air-conditioning system is obtained from a Safety Genemotor consisting of a 25-kw., 80-volt, d.c. generator and a 15-hp., 220-volt, a.c. motor driven from standby power. The generator axle drives are the Spicer Nos. 6 and 6-1 with hollow shaft and automatic clutch. For the fluorescent lights, 110-volt a.c. power is taken from a 2.5 kw. motor-alternator. For curling-iron and razor outlets, and for radio operation, current is supplied at 115 volts by a 300-watt Jeannette converter.

The storage batteries are Exide 600 amp.-hr. EPTA-25 on all cars.

The 300,000 cir. mil. train line is installed in a rigid galvanized conduit underneath the car.

Each of the six cars is equipped with an R.C.A. radio. That in the 64-passenger coach is placed in the corridor partition of the women's washroom at the stub end; in the dome coach, it is above the luggage shelves. Loudspeakers are placed in the ceilings of both cars, spaced to give maximum distribution of sound. In the dome car there is a speaker in the dome below the window at the end opposite the stairway.

The cars are also wired for a public address system, with Mines receptacles and jumper assembly, to be operated from another car. Common speakers, which are used both for the radio and the public address system, are 10-in.

The General Steel Castings four-wheel single-equalizer trucks having a 9 ft. wheel base and fitted with roll stabilizers are a part of all of these cars. Under the coaches the axles are 5½-in. by 10-in.; under the dome coaches, 6-in. by 11-in. All are equipped with Timken roller bearings. The wheels are 36-in. high carbon steel with 2½-in cylindrical rims. Rubber sound-deadening pads are inserted under the center plate and side bearings, and over the journal boxes; the bolster ends have rubber bumper pads. Fabreeka pads are inserted above and below the top and bottom spring seats.

The cars are heated by the Vapor zone-control system. The Vapor water heating system is also installed.

Westinghouse H.S.C. air brakes, with D-22-B control valves, provide a maximum braking ratio of 250 per cent of the light weight of the cars at 100 lb. cylinder pressure. The trucks have A.S.F. beam type clasp brakes with two brake cylinders per truck. Each car has a Westinghouse genemotor type speed governor. The cars are fitted with National Malleable tightlock couplers and yokes. The draft gears are Waughmat without separate buffers.

The 64-passenger coaches have a total weight of 125,000 lb., of which 37,500 lb. is accounted for by the trucks. The weight of the dome coaches is 144,000 lb.; their trucks, 41,000 lb.

MID-YEAR BUYING FIGURE NEAR $1-1/2 BILLION

All categories up from last month with equipment, rail and crossties leading increases

June total purchase figures reached $252,731,000, with all items showing increases which ranged from 3 to 77 per cent. This total was 17 per cent above the revised May total of $215,183,000. June expenditures for equipment, supplies and fuel brought the total for the first six months of 1948 to $1,495,346,000, a rise of 18 per cent from the comparable period last year.

Particularly noticeable is the rise in the buying of crossties. With crosstie production going up and prices fairly stable it is evident that as ties are becoming available the railroads are buying them.

Equipment orders during June totaled approximately $58,163,000, an increase of 77 per cent from the May equipment order figures. Included in the total were an estimated $23,163,000 for 65 Diesel-electric and 25 steam locomotives; $23,500,000 for 5,873 freight cars; and approximately $11,500,000 for 115 passenger-train cars.

1948 RAILWAY PURCHASES*

	June (000)	Six Month Totals 1948 (000)	Six Month Totals 1947 (000)
Equipment**	$58,163	$399,909	$334,580
Rail	7,759	44,244	41,659
Crossties	7,092	35,146	48,557
Other Material	104,177	595,102	515,178
Total from Manufacturers	$177,191	$1,074,401	$939,974
Fuel	75,540	420,945	329,856
Grand Total	$252,731	$1,495,346	$1,269,830

*Subject to revision
**Amount placed on order

Inventories of rail and ties have declined somewhat during the last month, despite May purchases. It is clear that the seasonal decline of stocks of these items is on, and early.

JUNE* PURCHASES OF MANUFACTURED GOODS (Excl. Equip. & Fuel)

Year	June '48 Compared to Other Junes (000) Amt.	% Change
1942	$ 71,789	+67
1943	72,333	+65
1944	88,448	+35
1945	83,600	+42
1946	78,111	+52
1947	102,060	+17
1948	119,027	

Month	June '48 Compared to Other Months '48 (000) Amt.	% Change
Jan.	$105,827	+12
Feb.	103,389	+15
Mar.	121,557	— 2
Apr.	115,811	+ 3
May	108,880	+ 9
June	119,027	

Year	Six Month Totals '48 And Other Years (000) Amt.	% Change
1942	$455,447	+48
1943	389,313	+73
1944	504,789	+34
1945	486,690	+39
1946	458,324	+47
1947	605,394	+11
1948	674,491	

JUNE* PURCHASES OF RAIL

Year	June '48 Compared to Other Junes (000) Amt.	% Change
1942	$5,829	+ 33
1943	4,584	+ 69
1944	6,508	+ 19
1945	6,627	+ 17
1946	3,840	+102
1947	6,388	+ 21
1948	7,759	

Month	June '48 Compared to Other Months '48 (000) Amt.	% Change
Jan.	$7,409	+ 5
Feb.	8,200	— 5
Mar.	8,661	—10
Apr.	5,452	+42
May	6,763	+15
June	7,759	

Year	Six Month Totals '48 And Other Years (000) Amt.	% Change
1942	$28,943	+53
1943	27,233	+62
1944	39,258	+13
1945	35,659	+24
1946	24,196	+83
1947	41,659	+ 6
1948	44,244	

JUNE* PURCHASES OF CROSSTIES

Year	June '48 Compared to Other Junes (000) Amt.	% Change
1942	$6,138	+16
1943	6,826	+ 4
1944	7,589	— 7
1945	6,138	+16
1946	7,011	+ 1
1947	8,450	—16
1948	7,092	

Month	June '48 Compared to Other Months '48 (000) Amt.	% Change
Jan.	$5,623	+26
Feb.	4,630	+53
Mar.	5,861	+21
Apr.	5,857	+21
May	6,083	+17
June	7,092	

Year	Six Month Totals '48 And Other Years (000) Amt.	% Change
1942	$34,222	+ 3
1943	35,257	— 1
1944	42,684	—18
1945	34,869	+ 1
1946	42,577	—17
1947	48,557	—28
1948	35,146	

*Subject to revision

JUNE* PURCHASES OF OTHER MATERIAL

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)			Six Month Totals '48 And Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1942	$ 59,822	+74	Jan.	$ 92,795	+12	1942	$392,282	+52
1943	60,923	+71	Feb.	90,560	+15	1943	326,823	+82
1944	74,351	+40	Mar.	107,035	— 3	1944	422,847	+41
1945	70,835	+47	Apr.	104,502	— 1	1945	416,162	+43
1946	67,260	+55	May	96,033	+ 8	1946	391,551	+52
1947	87,222	+19	June	104,177		1947	515,178	+16
1948	104,177					1948	595,102	

JUNE* PURCHASES OF FUEL

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)			Six Month Totals '48 And Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1942	$35,290	+114	Jan.	$73,733	+ 2	1942	$204,088	+106
1943	38,019	+ 99	Feb.	70,438	+ 7	1943	262,101	+ 61
1944	49,706	+ 52	Mar.	69,181	+ 9	1944	306,059	+ 38
1945	48,215	+ 57	Apr.	58,524	+29	1945	282,167	+ 49
1946	40,928	+ 85	May	73,529	+ 3	1946	255,079	+ 65
1947	51,130	+ 48	June	75,540		1947	329,856	+ 28
1948	75,540					1948	420,945	

JUNE* TOTAL PURCHASES (Excl. Equip.)

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)			Six Month Totals '48 And Other Years (000)		
Year	Amt.	% Change	Month	Amt.	% Change	Year	Amt.	% Change
1942	$107,079	+82	Jan.	$179,560	+ 8	1942	$659,535	+66
1943	110,352	+76	Feb.	173,828	+12	1943	651,414	+68
1944	138,154	+41	Mar.	190,738	+ 2	1944	810,848	+35
1945	131,815	+48	Apr.	174,335	+12	1945	768,857	+42
1946	119,039	+63	May	182,408	+ 7	1946	713,403	+54
1947	153,190	+27	June	194,568		1947	935,250	+17
1948	194,568					1948	1,095,437	

JUNE 1* INVENTORIES OF RAIL

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$23,562	+31	Jan.	$32,924	— 7
1943	19,424	+58	Feb.	36,120	—15
1944	22,637	+36	Mar.	37,341	—18
1945	24,238	+27	Apr.	36,572	—16
1946	23,200	+33	May	31,911	— 4
1947	27,990	+10	June	30,767	
1948	30,767				

JUNE 1* INVENTORIES OF CROSSTIES

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$62,424	+39	Jan.	$92,300	— 6
1943	60,479	+43	Feb.	93,492	— 7
1944	79,004	+10	Mar.	98,843	—12
1945	70,302	+23	Apr.	96,782	—11
1946	75,953	+14	May	92,711	— 7
1947	89,782	— 4	June	86,548	
1948	86,548				

JUNE 1* INVENTORIES OF OTHER MATERIAL

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$392,441	+55	Jan.	$560,703	+ 8
1943	370,995	+67	Feb.	570,201	+ 7
1944	413,410	+47	Mar.	577,078	+ 5
1945	450,437	+35	Apr.	587,390	+ 3
1946	455,860	+33	May	603,972	+ 1
1947	542,096	+20	June	607,278	
1948	607,278				

JUNE 1* INVENTORIES OF SCRAP

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$10,689	+31	Jan.	$13,225	+ 6
1943	10,167	+38	Feb.	13,336	+ 5
1944	10,346	+35	Mar.	16,409	—15
1945	10,110	+38	Apr.	15,783	—13
1946	10,872	+29	May	16,217	—14
1947	10,929	+28	June	13,993	
1948	13,993				

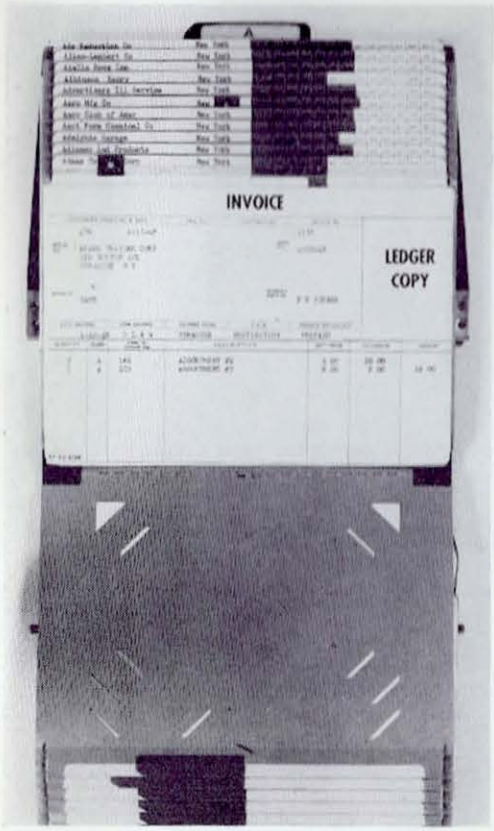
JUNE 1* INVENTORIES OF FUEL

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$44,574	+67	Jan.	$66,388	+ 9
1943	58,172	+25	Feb.	66,727	+ 9
1944	56,885	+27	Mar.	65,071	+11
1945	51,402	+41	Apr.	64,153	+13
1946	42,875	+69	May	62,094	+17
1947	56,510	+28	June	72,512	
1948	72,512				

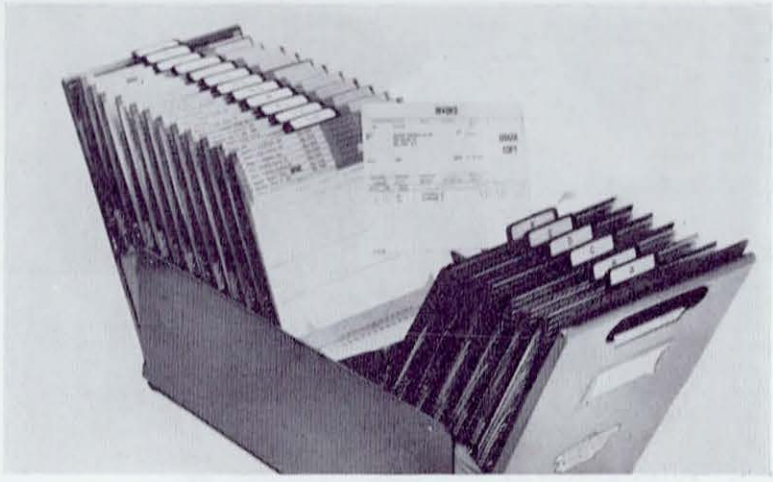
JUNE 1* TOTAL INVENTORIES

June '48 Compared to Other Junes (000)			June '48 Compared to Other Months '48 (000)		
Year	Amt.	% Change	Month	Amt.	% Change
1942	$533,690	+52	Jan.	$765,540	+ 6
1943	519,237	+56	Feb.	779,876	+ 4
1944	582,282	+39	Mar.	794,742	+ 2
1945	606,489	+34	Apr.	800,680	+ 1
1946	608,760	+33	May	806,905	+ 1
1947	727,307	+12	June	811,098	
1948	811,098				

*Subject to revision



Left—A panel of "Kolect-A-Matic" with invoice in pocket. "Graph-A-Matic" signal tabs on cover margins indicate date of oldest bill. "Kolect-A-Matic" cabinet (below) with ends released for easier insertion of invoices. Panel markers are shown



BOOKLESS BOOKKEEPING ON THE NEW HAVEN

By L. V. SULLIVAN,
Comptroller, New York, New Haven & Hartford

Accounts receivable now handled more speedily and economically

Annual payroll savings of several thousand dollars, plus other advantages, have resulted from changing the method by which the New York, New Haven & Hartford handles accounts receivable for that company and several subsidiaries. Heretofore, twenty cumbersome loose leaf ledgers and bookkeeping machines equipped with totalizers were utilized in posting bills receivable, cash and journal entries. Since January, 1948, however, the Remington Rand "Kolect-A-Matic" simplified unit invoice accounting plan has been in use. These visible records have speeded work and eliminated many possible errors that result from repetitive posting.

Prior to the installation of the "Kolect-A-Matic" system, the handling of a bill from date of receipt until it finally was paid required some thirteen different operations, including four separate postings. This was exclusive of any work required in the "dunning" process.

Dunning, incidentally, required thumbing through thousands of closed accounts until an item appeared, which, according to date rendered, would be treated as a "due" or "overdue" item. But before the dunning statement or letter was written, in many cases it still was necessary to go to the files for the bill so that all the details of the service were available.

While it was recognized that this was an uneconomical system, we were unable to secure any mechanical system that would result in appreciable savings until the "Kolect-A-Matic" system was developed. We adopted it as being the most efficient and adaptable to our business, where some 1,500 monthly bills are handled.

Under this system, each outside office or division charged with the responsibility of rendering bills sends an extra copy to the accounts receivable office. This copy is placed in a pocket in its alphabetical order, representing the debit. This bill remains in place until paid, cancelled or disposed of in some other manner, at which time it is withdrawn, date stamped, and remarks entered on the bill if other than a cash settlement is made, and then filed in alphabetical order. After the close of a month bills remaining constitute the unpaid balance. Normally, only five operations are performed to complete the handling of any one bill.

The application of the "Kolect-A-Matic" method of handling accounts receivable has made possible many savings, some of which are as follows:

1. Bookkeeping machines were dispensed with, plus the necessity for their replacement;
2. Ledgers and ledger paper no longer are necessary;
3. Since the system is visible and research therefore accelerated, it is easier to prepare dunning statements, obtain balance and make reconciliations;
4. Full information on bills makes it unnecessary to go to files for bills when preparing dunning statements or letters;
5. Payroll savings are approximately $4,000 per year;
6. Closing dates, balancing and reporting of monthly figures have been advanced by about a week;
7. The possibility of making errors through repetitive posting is largely eliminated;
8. Eight of the thirteen former operations are eliminated.

ONE HUNDRED YEARS' DEVELOPMENT OF RAILWAYS IN THE CHICAGO AREA

By SAMUEL O. DUNN
Co-editor, *Railway Age*

At a time when the progress in American railroading, made since Chicago began to become the world's greatest railroad center, is being celebrated in that city with a Railroad Fair, the success of which both in attendance and as entertainment has surpassed all expectations, it seems appropriate to publish the story of Chicago's development as a railroad center. This story was told by Samuel O. Dunn on November 6, 1947, at the annual dinner of the Chicago group of the Newcomen Society, in a paper which has not heretofore been published, but which *Railway Age* has decided would be of especial interest to its readers now when the Railroad Fair is in progress and when the pioneer among Chicago railways, Chicago & North Western, is preparing to celebrate its centenary. The first part of Mr. Dunn's paper appears herewith; the second part will appear next week.

PART I

It was on October 9, 1847, that the first official meeting of the Galena & Chicago Union Railroad was held in its brand new offices in the Merchants Exchange Building, in Chicago, where the rent was $150 a year. Shortly thereafter construction of the first seven miles west of Chicago was put under contract.

The Galena & Chicago Union, now part of the North Western, was the first railroad to enter Chicago. That its incorporators considered the lead producing city of Galena on the Mississippi as then a more important point than Chicago is evidenced by the fact that they gave Galena priority over Chicago in the name of the road. The road's corporate life actually began January 16, 1836, when it was granted a charter to build from Chicago "on, toward, if not to, the Mississippi river, near the lead mines at Galena, Ill., and Dubuque, Ia." There was then not a mile of railroad in, or west of, Illinois, and it was two years later that another railroad—the Northern Cross—was completed from Meredosia, Ill., to Jacksonville and began operation first by a Rogers locomotive, and later by mule power. The Galena road *project*, however, remained just that, due to inability of its promoters to raise capital. The only physical evidence of its existence was the driving of piling and the laying of stringers along West Madison street in the fall of 1838, which remained in view during the following decade and served as a constant reminder to newspaper editors to keep the subject of the new railroad alive.

Early in 1847 the project was revived by the appearance of William Butler Ogden, a New Yorker who had come to Chicago to multiply his fortune. Under his driving direction, the little railroad was pushed out into the prairie and, on October 23, 1848, the first steam locomotive to enter Chicago—the "Pioneer"—was placed on the tracks. Its first trip was made on October 25 and received the following press notice: "The locomotive on the Galena road took a turn over it, of about five miles yesterday, much to the satisfaction of a number of gentlemen who rode in the cars attached. Everything worked to a charm. Part of this new road will soon be in order for travel."

When it is considered that, in 1848, Chicago was but a decade or so removed from the trading-post era and had suffered an Indian massacre only 35 years previously, the building and operation of the little Galena road over the raw prairie was a real feat. Unlike many of the grandiose canal and railroad projects of that day which were financed by state governments, the G. & C. U. was financed entirely with private capital by Chicago merchants and farmers of the surrounding countryside. Capital from the east and from abroad was not forthcoming until years later.

Roll Call of the Roads

The number of railroads now entering Chicago, the development of which in this area within a century has made it the greatest terminal in the world, is too great to permit more than an enumeration of their names and dates of entry. Here is the roll call:

North Western	1848
Burlington	1850
New York Central Lines (both Lake Shore and Michigan Central)	1852
Rock Island	1852
Illinois Central	1852
Alton (now Gulf, Mobile & Ohio)	1856
Pennsylvania	1857
Milwaukee	1872
Baltimore & Ohio	1874
Grand Trunk Western	1880
Wabash	1880
Chicago & Eastern Illinois	1881
Monon	1882
Nickel Plate	1882
Erie	1883
Soo	1886
Chicago Great Western	1886
Santa Fe	1887
Big Four	1889
Chesapeake & Ohio	1904

The Burlington did not at first enter over its own rails but built from Aurora northeast to the Galena road at Turner Junction (now West Chicago) and ran trains with its own crews over the Galena to the downtown "depot" of that line. It was not until 1864 that the Burlington entered the city on its own line.

The Michigan Central and the Lake Shore & Michigan Southern (both now parts of the New York Central) were two of the bitterest railroad rivals in the country and exhausted every stratagem

VITAL STATISTICS OF CHICAGO RAILROADING

7,869 miles of track in Terminal District
5,183 miles of track in Switching District
58,000 full-time railroad employees, with payroll of $194 millions, comprise 1/30th of population
700 engine crews at work in terminal area at all times
District contains 8 per cent of total U.S. railroad investment
Railroads pay $12 million in local property taxes in terminal area
1,700 passenger trains daily
45,000 freight cars handled a day in Switching District alone
Direct package cars to 1,500 communities
City loads 4½ per cent of all freight cars loaded in U.S.—unloads 6¼ per cent
Switching District serves 4,000 industries with sidetracks
Total of 125 million passengers handled in 1947 (112 million suburban)
More than 1,400 Chicago concerns manufacture products used by railroads

in their efforts to prevent each other from reaching Chicago.

The Michigan Central was unable to get a charter across the strip of Indiana which separates Michigan from Illinois, due to the political pressure of its rival. Finally the Michigan Central arranged with a little road called the New Albany & Salem (now the Monon)—then building north from New Albany, Ind.—to build a line from Michigan City to the Illinois state line—a route not at all in conformity with the Monon's original plan—and to lease the line in perpetuity to the Michigan Central. But a second serious obstacle was encountered by the Michigan Central—it could not get permission to build from the state line to Chicago. This obstacle it overcame by getting the Illinois Central—then building north from Centralia to Chicago—to divert its line to the vicinity of the Illinois-Indiana state line so that the Michigan Central could enter Chicago over the Illinois Central. Hence, the trains of the Michigan Central actually entered Chicago along the lake front before the trains of the Illinois Central itself.

Added to the bitter rivalry between the railways of the day—which prevailed in all parts of the country—was the anxiety of Chicago lest its future importance as a railroad terminal and transfer point be diminished if trunk lines from the east and west, respectively, were permitted to join their lines at points outside the city. For this reason the people of Chicago vigorously opposed efforts of the original Galena road to exercise its charter right to build an extension from downtown Chicago to the Indiana state line and there form a connection with the Lake Shore or Michigan Central. For the same reason the city fathers opposed—but this time not successfully—a plan of the Rock Island and of the Lake Shore to avoid duplicate trackage by effecting a junction at Englewood, from which they could progress on a joint and common line to the center of the city. This joint track was built as planned and exists today as a unique example of original common usage, the Rock Island owning and maintaining the two westward tracks and the New York Central the two eastward tracks, although the trains of both railroads operate on all tracks in common.

By whatever measure is used, Chicago is the leading railroad center of the world, although in population it is but fourth among the world's cities. With its 19 trunk line railroad systems and 17 belt and short lines, Chicago is the nerve center of the nation's railway system. Seventeen hundred passenger trains—more than one every minute—arrive at or depart from the city every day. Approximately 45,000 freight cars are handled daily in the Chicago switching district—more than in New York City and St. Louis combined. From Chicago there emanates the finest package freight car service in the world, which daily serves 1,500 communities without transfers of freight from car to car and 60,000 additional communities with but one transfer en route.

No railroad passes through Chicago between the two major freight classification territories for which it serves as a major gateway. In the handling of east-west traffic, Chicago is the most important gateway in the United States—and the principal terminal and meeting point of eastern and western trunk lines.

In an attempt to gage the significance of the role which Chicago plays in the total railroad business of the country, I totalled up the traffic and revenues of the 19 road-haul systems for which Chicago serves as a major terminus. I found that, in 1946, these 19 systems earned 50.4 per cent of the gross revenues of all Class I railroads in the country and 50.7 per cent of their net operating income. Their freight revenue was 49.5 per cent of the total, and their passenger revenue 53.1 per cent. In terms of traffic these Chicago roads handled 52 per cent of the net ton-miles and 52.6 per cent of the passenger-miles of all Class I carriers.

An enumeration of the statistics of railroad plant in Chicago serves to dramatize the extent to which this city is devoted to the necessities of rail transportation. In a study made in 1912 it was found that 5.2 per cent of the area within a radius of six miles from the city hall was occupied by railroad tracks, while the track density of the entire city was 3.6 per cent. This figure is exclusive of property owned by railroads but occupied by facilities other than track. The trackage within the city of Chicago proper probably has not greatly increased since 1912, although the growth of peripheral freight yards *outside* the city limits has been phenomenal.

Location, Foresight, Enterprise

In 1921 it was estimated that approximately eight per cent, or one-twelfth, of the entire railroad investment in the territorial United States was centered in the Chicago switching district. I see no reason why that ratio should not still exist today, because the importance of Chicago as a railroad terminal city has increased proportionately since 1921.

The rise of the city to pre-eminence as a transportation center is due in part to its location at the foot of Lake Michigan. The lake has played a dual role in the transportation development of the city. First, it formed a natural link in the early tide of emigration and trade from the east to the west via the Erie Canal, Buffalo and the Great Lakes. Secondly, the lake formed an impassable obstacle to the trunk lines which pushed westward across Ohio and Michigan and forced them to turn southward and around

the bottom of the lake. It was a natural consequence that these roads should form a union with the western lines at Chicago. At the same time, the weak and struggling western roads sought Chicago as a terminus in order to capture lake and river traffic as well as the through interchange traffic with the eastern roads.

But natural advantage is far from being the whole story. Other points on the lake had terrain as adaptable to railroad facilities as that of Chicago, and might have assumed as much importance had their citizens had the enterprise and foresight of Chicago's pioneers. New Buffalo, Mich., which was the original terminus of the Michigan Central, or Michigan City, Ind., which was the goal of railroads striking north from the Ohio river, or St. Joseph, Mich., which had the advantage of age and tradition, might any of them have assumed the mantle of greatness. But it was Chicago, standing on swampy land and possessing no natural harbor, which won pre-eminence.

The superiority of Chicago as a meeting place for trade was early recognized. Just one hundred years ago, Richard Morgan, the chief engineer of the Galena & Chicago Union, reported to the directors of that company that:

> The day has arrived when an intense interest is aroused; the attention of capitalists has been directed westward and is drawn to points where the great streams of business must accumulate from the valley of the Mississippi, and Chicago will soon be regarded as the great depot at the head of the lake, the central point for eastern railroads, and the medium of a commerce eventually to exceed in magnitude all that now exists in the intervening country.

The incredible complexity of the Chicago railroad terminal district and the volume of traffic passing through it early made it necessary for the railroads to enter into close cooperative arrangements. The Chicago Switching District is a phenomenon in the transportation world. Covering the city of Chicago and numerous suburbs, this switching district extends approximately from Gary, Ind., and Dolton, Ill., on the south and east; along the line of the B. & O. Chicago Terminal and Indiana Harbor Belt on the west; to Des Plaines, Ill., and Evanston on the north; and to Lake Michigan on the east. The district is approximately 40 miles in length and from 7 to 15 miles wide. It covers an area larger than any other switching district in the country—more than 600 square miles. It contains a network of more than 5,000 miles of track, which serve more than 4,000 industries having private sidings.

In the switching district the railroads utilize 160 separate freight yards and operate 73 freight stations. Of these yards at least 50 may be termed major classification yards. Into the district there come 19 road-haul trunk line systems. Their facilities are supplemented by five important interchange belt lines and 11 industrial and short lines.

Of National Importance

The volume of through freight traffic at Chicago warrants the conclusion that the affairs of this terminal are of the greatest importance to the entire country. It is beyond question that, if the Chicago switching district should break down, the entire railroad net of the country would become hopelessly demoralized, if not paralyzed. Approximately 5,000 loaded freight cars are interchanged between the different railways every day in the Chicago switching district. The efficiency of this interchange is of vital importance.

But important as is the traffic passing through Chicago, the size of the traffic that begins and ends in Chicago far exceeds it. It is estimated that some 10,250 factories in the industrial area of Chicago are now producing at the rate of more than ten billion dollars' worth of goods a year. Through the war years more than one billion dollars was expended in expanding manufacturing facilities in the area, 316 new plants being constructed and more than 1,000 plants enlarged. Chicago is also the nation's greatest jobbing center. In 1945 it had more than 8,000 wholesale establishments with combined sales volume approximating $5,500,000,000. Chicago's retail trade in 1945 was equally astonishing. It was $2,700,000,000.

In view of these magnitudes, it is not surprising that, as far back as 1927, the Chicago switching district loaded 4½ per cent of all freight cars loaded in the United States and unloaded 6¼ per cent. Unquestionably these ratios are higher today. The average number of cars moved in the switching district is running about 45,000 a day at the present time, as compared with 35,000 in 1925, an increase of 29 per cent.

There is no question, then, that the improvements which have been made in the Chicago terminal district over a period of years have contributed mightily to the ability of the railroads of the country as a whole to handle a record traffic during and since the war with a stock of cars and locomotives which is far less than it was in World War I and which is growing less every day in net units.

For a number of years prior to World War I, and during that conflict itself, the railroads were plagued with a marked shortage of facilities. It became evident that the "shortage" was not mainly due to lack of rolling stock or line capacity, but to inadequacy of terminals and inefficiency in their use, resulting, as was said, in terminals becoming "the graveyards of freight cars."

This deficiency was remedied by expenditures for new physical facilities which added $6,600,000,000 net to the investment in the railroads in the Twenties, and which made possible their amazing achievements in handling the traffic of World War II. A very large part of these expenditures was made in the improvement and expansion of terminal facilities, and nowhere else on as large a scale as in the Chicago district.

The increase in average miles moved by each freight car daily from 25.1 in 1920 to 46.5 in 1945 was an increase in utilization of almost 100 per cent. Contrary to popular impression, freight cars spend more time standing still in freighthouses, on shippers' sidings and in classification yards than they do actually moving on the road. Therefore, the tremendous increase in the efficiency of their utilization has been due more to increased speed in getting them into, out of and through yards and terminals than to increased speed of freight trains on the road, great as the latter has been. Much of the nationwide increase in the efficiency of their use must be attributed to the improvement of terminal facilities, and especially at great centers like Chicago.

[End of Part I]

GENERAL NEWS

R.E.A. Formulates Single Rate Scale

But agency contends new tariffs will not offset carriers' costs

Complying with the Interstate Commerce Commission's September, 1947, order in Ex Parte 163, the Railway Express Agency has formulated and submitted to the commission a single scale of express rates for nationwide application. As reported in *Railway Age* of September 27, 1947, page 69, the same order also authorized the R.E.A. to establish new rate adjustments. Such rates were scheduled to expire October 25, but the commission, as noted in *Railway Age* of August 14, page 78, has authorized the R.E.A. to maintain them "until further order," meanwhile scheduling the proceeding for further hearing on September 20.

At the present time, there are two territorial express rate scales — the Eastern-Southern scale, applying generally east of the Mississippi river, and the Western scale, which applies generally west of the Mississippi and on traffic moving between the two territories. The Western scale is generally on a somewhat higher level than the Eastern-Southern scale, although, as the R.E.A. explains, for "certain medium distances" — 450 to 550 miles — the rates are the same. For shorter hauls, the difference in rates per 100 lb. is 11 cents, while for longer hauls, the difference reaches a maximum of 99 cents.

The single nationwide scale which the R.E.A. has submitted is the present Western scale with the same rates per 100 lb., but with a revision in the graduated charges on shipments under 100 lb. to the basis of the pound rates plus 85 cents instead of pound rates plus 82½ cents as at present. The scale, the R.E.A. said, is "submitted as a rate structure nationwide in scope and closely related to the present scales. It is not submitted as a scale that will be adequate from the revenue standpoint."

The R.E.A.'s presentation also includes statistical data designed to show that, as the agency puts it, "neither the present rate structure nor the single nationwide scale will provide revenues sufficient to meet the costs of the service and adequately compensate the carriers that transport the business."

Applying the nationwide scale to the handling of 148,000,000 l.c.l. express shipments in a "prospective" year, it estimates that although the revenue from such traffic would amount to $443,667,000 -- compared with $211,794,999 for the first six months of 1948 and $428,084,088 for the 12 months ended with December 31, 1947 — the express privilege payments to the Class I railroads will be insufficient by $96,059,836 to cover the estimated costs which those carriers expect to incur in the handling of such traffic. The latter figure, derived by deducting an estimated $144,149,000 in express privilege payments to the railroads from the carriers' estimated costs of $240,208,836, compares with deficiencies of $57,992,814 for the first six months of 1948 and $129,603,467 for the 12 months ended with December 31, 1947.

Another table in the R.E.A.'s presentation compares the present first class rate per 100 lb. between representative points with the first class rates under the formulated single scale. This compilation shows, for example, that the rates between Chicago and Dallas, Tex., Denver, Colo., Kansas City, Mo., Los Angeles, Calif., Oklahoma City, Okla., Pittsburgh, Pa., St. Paul, Minn., Salt Lake City, Utah, San Francisco and Seattle, Wash., would remain the same, while the rates between Chicago and Atlanta, Ga., Birmingham, Ala., Boston, Mass., Cleveland, Ohio, Indianapolis, Ind., Miami, Fla., New Orleans, La., New York City, Philadelphia, Pa., Richmond, Va., and St. Louis would be increased from 11 cents to 99 cents, the average overall increase amounting to about 53 cents. Second class rates, meanwhile, would be 75 per cent of the first class rates.

Still another table compares the present first class package charges for one to 100 lb. between New York, San Franscisco and various representative points with the first class package charges under the single scale. This compilation illustrates, for example, that the rates on a 50-lb. package would be increased from $3.36 to $3.76 between New York and Chicago and New York and Atlanta; from $2.09 to $2.16 between New York and Boston; from $5.50 to $5.52 between New York and Dallas; from $6.05 to $6.07 between New York and Denver; from $4.73 to $4.75 between New York and Kansas City; and from $8.34 to $8.35 between New York and San Francisco. While the rate on a 100-lb. package between New York and Dallas, Denver, Kansas City and San Francisco would remain the same, it would be increased from $5.89 to $6.66 between New York and Atlanta, from $3.36 to $3.47 between New York and Boston and from $5.89 to $6.66 between New York and Chicago.

Reparation Case Hearings Postponed

Justice Department gets delay after Army raises "security" questions

Acceding to a Department of the Army request, which was based on "security" reasons, the Department of Justice has obtained from the Interstate Commerce Commission an indefinite postponement of the hearings that had been scheduled for September 22 in five of the so-called government reparations cases. Secretary of the Army Royall raised the "security" question in connection with only two of the proceedings, and the Department of Justice limited its request for postponement of the hearings to those two cases. However, the commission's postponement order of September 2 applies to all five cases.

These cases, like several other pending proceedings, arose out of complaints whereby the government is seeking to recover alleged overcharges which it claims the railroads made on its wartime shipments of various commodities. The two cases in which Secretary Royall found "security" aspects are Nos. 29735 and 29795. The complaint in the former assails as unreasonable the charges paid by the government on export freight stopped "temporarily" at storage-in-transit depots; the complaint in No. 29795 assails as unreasonable charges paid by the government as a result of the application of railroad "policing rules" to its transcontinental shipments moving to Pacific Coast ports for export.

Correspondence filed with the commission by the Department of Justice when it sought the postponement shows that Secretary Royall raised the "security" question in an August 27 letter to Attorney General Clark. In that letter the secretary pointed out that material, gathered in his department by members of the Department of Justice staff who are working on the cases, includes "specific details as to the operation and layout of the various depots and other installations at which goods were stored in transit for the Army, including maps, or layouts." While he conceded that "much of this material is either unclassified or could appropriately be declassified for use as an individual exhibit," Mr. Royall nevertheless asserted that "consideration must be given to the cumulative effect of assembling and making public this material in such a manner that it may possibly disclose the total shipping po-

tentials of the nation under wartime conditions." From this might also be deduced "important information as to the production potential," the secretary added.

Further Study Necessary

He went on to say that the "security aspects" thus presented would require further study; and to request the attorney general to have his staff review the material to determine if any of it could be eliminated "without seriously affecting the presentation of the case." More specifically, the secretary recommended the elimination of maps and layouts and references to them in prepared testimony—unless such evidence is considered "vital" to the case. He added that any other data not considered "vital" should also be deleted.

The secretary also told the attorney general that much of the material was gathered directly by members of the Department of Justice staff, and "is not of record" in the Department of the Army. Mr. Royall went on to request that "arrangements be made as soon as possible for officers from the Intelligence Division, Department of the Army General Staff, and of the Transportation Corps, to review the exhibits and material now in preparation so that this department will be correctly informed of the data proposed to be made public as evidence in the proceedings."

Attorney General Clark replied on August 30, stating that his department's presentation in the cases "consists of approximately 4,000 pages of statements and exhibits," which the department thinks are "necessary in order adequately to present the issues to the commission." Mr. Clark also reported that this material had been assembled and was ready for filing in accordance with the commission's requirement that it be submitted in writing, with copies furnished to the railroads and intervenors, not later than September 1.

"Any reexamination of this material to determine the effect on national security will, of course, make it necessary to seek a continuance of the hearings now scheduled for September 22," the attorney general continued. He went on to ask Secretary Royall whether the latter considered that the "national security aspects of this matter so outweigh other considerations which make it desirable to secure a speedy determination of this litigation as to justify requesting the commission to continue these cases."

Evidence "Dangerous"

Secretary Royall's reply, also dated August 30, made a specific recommendation that the postponement be sought in the storage-in-transit and policing-rules cases. In leading up to the recommendation, the secretary had this to say:

"Upon the basis of a preliminary examination by representatives of the Intelligence Division, G.S.U.S.A., of a portion of the material prepared for distribution to counsel and the Interstate Commerce Commission in these cases, it has been determined that the cumulative effect of the disclosure of the said material would be extremely dangerous to the security of the United States. Accordingly, it is vital that the distribution of the material as now assembled be delayed pending further examination for security purposes and the perfecting of appropriate arrangements for the presentation of such part of the assembled material as will not be objectionable from a security aspect."

Copies of this correspondence were transmitted to Commissioner Mahaffie, chairman of Division 4, by Assistant Attorney General Bergson on August 31. Mr. Bergson's letter of transmittal requested that the hearings in the two proceedings be postponed "until the security question has been resolved by the Department of the Army."

Meanwhile, it advised the commission that the government was ready to proceed in the other three proceedings that had been set for hearing September 22, and that the government's evidence in those proceedings had been filed with the commission and served on the parties. These three proceedings and the commodities on which the assailed rates were charged are as follows: No. 29622, soldiers' pack-carrier cases; No. 29746, aluminum airplane landing mats; No. 29805, steel airplane landing mats. As noted above, the commissions' postponement order applied to these cases as well as the two on which the delay was requested.

I. C. INSTALLS LARGE ELECTRIC SIGN AT CHICAGO. — An electrically-lighted sign, consisting of 10,000 incandescent lights and 1,800 ft. of luminous tubing, was placed in operation by the Illinois Central atop its station in Chicago on August 19. The display, said to be one of the largest and most elaborate west of New York's Times Square, was first lighted by Wayne A. Johnston, president of the I. C. (second from left). With him were (left to right): B. L. Robbins, executive vice-president of the General Outdoor Advertising Company, builders of the display; Hugh A. Burke, assistant regional manager of the firm; and R. E. Barr, traffic vice-president of the I. C. Below the diamond emblem is a 100-ft.-long motograph panel which spells out messages of interest to the shipping and traveling public in letters 10 ft. high. A technician is on duty at all times while the display is functioning

7 Months Net Income Totaled $334,000,000

Net railway operating income for same period was $516,189,527

Class I railroads in the first seven months of 1948 had an estimated net income, after interest and rentals, of $334,000,000, as compared with $247,000,000 in the corresponding period of 1947, according to the Bureau of Railway Economics of the Association of American Railroads. The seven-months net railway operating income, before interest and rentals, was $516,189,527, as compared with $430,603,569.

Estimated results for July showed a net income of $76,700,000, as compared with $34,800,000 for July, 1947, while the net railway operating income for the 1948 month was $105,256,808, as compared with $61,197,828. In the 12 months ended with July, the rate of return averaged 3.79 per cent, as compared with 3.69 per cent for the 12 months ended with July, 1947.

Total operating revenues in the seven months amounted to $5,448,712,802 compared with $4,858,577,843 in the same period of 1947, an increase of 12.1 per cent. Operating expenses amounted to $4,275,076,138 compared with $3,805,390,575, an increase of 12.3 per cent.

Twenty-five Class I railroads failed to earn interest and rentals in the seven months, of which 10 were in the Eastern district, four in the Southern region and 11 in the Western district.

In the East

Class I roads in the Eastern district in the seven months had an estimated net income of $116,000,000 compared with $83,000,000 in the same period of 1947. For July, their estimated net income, was $28,000,000 compared with $9,000,000 in July, 1947. Those same roads in the seven months had a net railway operating income, of $215,394,806 compared with $175,676,514 in the same period of 1947. Their net railway

Train Load Record Made In First Half of Year

American railroads in the first half of 1948 carried more tons of freight per train than ever before and without any decrease in the average speed, the Association of American Railroads announced on September 10. The announcement went on to point out that freight train performance per hour also established a new high record.

The average load of freight per train in the first six months of 1948 was 1,153 tons, an increase of seven tons above the previous high record for the year 1947 when the average was 1,146 tons. It also was an increase of 14 tons above that in 1944, the peak war year. In 1929, the average was only 804 tons. Net ton-miles per train hour averaged 18,212 in the first six months this year, the highest on record, compared with 10,580 ton-miles in the year 1929 and 7,303 in 1920.

"This performance" the A. A. R. said, "was made possible by improved operating methods, larger and more efficient locomotives, better freight cars, improved signaling and other devices, heavier loading of freight cars, and getting more cars in the average train."

The number of freight cars in a train averaged 53.7 in the first half of 1948, the highest on record. In 1944, the average was 53 and in 1947 it was 52.9. The average speed of freight trains in the six months' period in 1948 was the same as that for the two previous years but higher than in 1942, 1943, 1944 and 1945.

operating income, in July amounted to $42,889,224 compared with $22,124,246 in July, 1947.

Gross in the Eastern district in the seven months totaled $2,491,572,160, an increase of 11.6 per cent compared with the same period of 1947, while operating expenses totaled $1,298,276,786, also an increase of 11.6 per cent.

Class I roads in the Southern region in the seven months had an estimated net income of $55,000,000 compared with $37,000,000 in the same period of 1947. For July, they had an estimated net income of $8,700,000 compared with $1,800,000 in July, 1947. Those same roads in the seven months had a net railway operating income of $81,737,926 compared with $61,899,181 in the same period of 1947. Their net railway operating income in July amounted to $11,908,975 compared with $4,977,245 in July, 1947.

Gross in the Southern Region in the seven months totaled $767,744,265, an increase of 11.4 per cent compared with the same period of 1947, while operating expenses totalled $594,916,714, an increase of 9.6 per cent.

West's Net Better

Class I roads in the Western district in the seven months had an estimated net income of $163,000,000 compared with $127,000,000 in the same period of 1947. For July, they had an estimated net income of $40,000,000 compared with a net income of $24,000,000 in July, 1947. Those same roads in the seven months had a net railway operating income of $219,056,795 compared with $193,027,874 in the same period of 1947. Their net railway operating income in July amounted to $50,458,609 compared with $34,096,337 in July, 1947.

Gross in the Western district in the seven months totaled $2,189,396,377, an increase of 13 per cent compared with the same period of 1947, while operating expenses totaled $1,681,882,638, an increase of 14.2 per cent.

CLASS I RAILROADS, UNITED STATES

	Month of July 1948	1947
Total operating revenues	$841,993,545	$705,996,510
Total operating expenses	626,159,046	555,703,112
Operating ratio, per cent	74.37	78.71
Taxes	96,398,698	74,978,264
Net railway operating income (Earnings before charges)	105,256,808	61,197,828
Net income, after charges (estimated)	76,700,000	34,800,000
	Seven months ended July 31, 1948	
Total operating revenues	$5,448,712,802	$4,858,577,843
Total operating expenses	4,275,076,138	3,805,390,575
Operating ratio—per cent	78.46	78.32
Taxes	557,600,751	526,700,385
Net railway operating income (Earnings before charges)	516,189,527	430,603,569
Net income, after charges (estimated)	334,000,000	247,000,000

Benefit Payments at All-Time High in 1947-48 Fiscal Year

Activities of the Railroad Retirement Board reached record levels during the fiscal year 1947-48, when more than a quarter of a billion dollars was paid for retirement, survivor, unemployment and sickness benefits to some three-quarters of a million men, women and children. In a summary of its activities published in the "Monthly Review" for August, the board points out that the high level of operations was due to the fact that 1947-48 was the first full year of operations under the 1946 amendments to the Railroad Retirement Act. In addition, it was the first year in which sickness benefits were paid under the Railroad Unemployment Insurance Act.

In the 11 years during which the board has collected wages and service information on railroad employees, 8,000,000 persons have accumulated credits toward benefits under the railroad insurance system. The board estimates that 2,415,000 persons worked in railroad employment at some time during the 1947-48 fiscal year. Although this figure is somewhat lower than that for the previous year, the taxable payroll of $4,742,000,000 was higher.

A total of 154,500 retirement and survivor benefits were either awarded or increased during the year, compared with 126,000 in the previous year. Benefit payments increased 30 per cent to $225,000,000.

Over 320,100 persons were being paid monthly retirement and survivor benefits on June 30, which was an increase of nearly 90,000 for the year. Survivor benefit operations showed the greatest activity, with a total of 98,700 awards. Some 43,000 employees were awarded retirement annuities during the year; compared with only 28,700 in 1946-47.

Expansion of the Railroad Unemployment Insurance Act by the addition of the sickness program resulted in a record payment of $59,030,000 to 350,000 persons during the fiscal year. A total of 210,000 workers received unemployment benefits during the year, amounting to $32,426,000. This figure was 30 per cent below that of the 1946-47 payments. The 226,700 applications, however, set a new high for the nine years of the unemployment benefit program.

In the first year of operations under the sickness benefit program 150,400 employees were paid benefits totaling $26,604,000. Applications filed during the year reached 235,000, including 5,100 for maternity benefits. It was noted however, that less than two-thirds of the applications filed resulted in the opening of benefit accounts.

The 1947-48 benefits under the Railroad Retirement Act brought the total since the beginning of the system to well over the $1,500,000,000 mark.

Two Forwarders Indicted In Anti-Trust Proceeding

Indictments charging the Universal Carloading & Distributing Co. and the National Carloading Corporation with violations of the Sherman Anti-trust Act have been returned by a federal grand jury at Seattle, Wash., the Department of Justice announced in Washington, D. C., on August 27. The announcement said the indictment alleges that prior to 1945 Universal and National were "dominant freight forwarders" in the handling of household-goods shipments in the Pacific Northwest; and that in 1945 they commenced a program "designed to hinder" Northwest Consolidators which "appeared to be succeeding" in its attempt to compete with them. The activities on which the charges are based were "confined to business originating in the Seattle, Tacoma, Wash., Portland, Ore., and San Francisco, Cal., areas, the four principal points served by the new entrant," the announcement also said.

Upper Mississippi, St. Croix River Shippers Protest I.W.C. Embargo

The Upper Mississippi Waterway Association and 16 other municipal and shippers' groups have filed with the Interstate Commerce Commission a complaint charging that an embargo placed by the government-owned Inland Waterways Corporation, operator of the Federal Barge Lines, will result in "complete cessation" of the I.W.C.'s services on the Upper Mississippi and St. Croix rivers, except that which the I. W.C. may "choose to furnish" for

the movement of bulk commodities in barge loads. Such movements are exempt from commission regulation.

The embargo was placed July 19 by the I.W.C. due to the lack of "suitable equipment" to handle the traffic. It affects all freight offered for transportation on carload, l.c.l. and/or truckload and less—truckload rates to and from Stillwater, Minn., on the St. Croix, and to, from or via ports on the Upper Mississippi north of but not including St. Louis-E. St. Louis, Ill., except when such freight is offered in barge-load quantities aggregating not less than 400 net tons. It further provides that the barge-load traffic will be accepted for handling at the embargoed ports only when booking arrangements have been made with the I.W.C. The embargo does not affect traffic offered for transportation on joint barge-rail or rail-barge-rail rates applicable to Upper Mississippi ports nor on traffic from those ports moving on rail-barge or rail-barge-rail rates over routes applying via Peoria, Ill., Cairo, St. Louis and/or E. St. Louis.

I.C.C. Bureau Issues More Data on 1947 Traffic Flow

The Bureau of Transport Economics and Statistics of the Interstate Commerce Commission has issued six tables showing, on a one-per-cent-sample basis, the intraterritorial and interterritorial movements of freight traffic together with associated revenues as represented by carload terminations reported by Class I railroads for the fourth quarter of 1947. The compilation, Statement No. 4827 of the bureau, also shows short-line ton-miles and car-miles, average load, average short-line haul per car, average revenue per 100 lb., per car and per short-line car-mile and ton-mile. The data are presented for each of the five major commodity groups and for all of them combined.

The statement is another of the bureau's waybill studies. The data are some of those taken from waybills submitted in response to the commission's September 6, 1946, order requiring Class I roads to file copies of audited waybills representing their carload terminations which are numbered "1" or with numbers ending in "01."

P.R.R. Employees to Be Honored For U. S. Savings Bond Campaign

Secretary of the Treasury John W. Snyder and M. W. Clement, president of the Pennsylvania, participated in a ceremony at Union Station, Washington, D. C., on September 9 at which 82,535 employees of the Pennsylvania who are buying United States Savings Bonds regularly through the Payroll Savings Plan were honored.

The Treasury Department reports that the achievement of the Pennsylvania employees is one of the "most outstanding" of any group in the nation since the end of World War II. Both management and labor cooperated in a person-to-person solicitation on the Pennsylvania employees, it said.

The ceremonies included the decoration of the "Congressional" with a special banner. Banners also were unfurled at Union Station, and at the Pennsylvania's stations in Philadelphia, Pa., Pittsburgh and New York. Special bond displays also are planned for the road's 5,000 other stations.

Predicts Largest Corn Crop

A record corn crop of 3½ billion bushels despite the recent hot weather was forecast last week by Howard Gramlich, general agricultural agent of the Chicago & North Western. The previous corn crop record—3,249,950 bushels—was set in 1946.

Mr. Gramlich, who recently completed a survey of the corn-growing states, said that the heat wave came so late that it did not seriously affect the major part of the corn crop. He placed the loss due to the hot dry spell at 100 million bushels. In some cases, he stated, the heat "actually helped by rushing the crop to maturity and thereby guaranteeing the early appearance of new corn on the market."

The record crop should result in increased meat supplies and subsequently lower prices for the nation's consumers, he asserted. At the same time, he added, it will return a larger income to farmers through stepped-up consumption of meat cuts previously out of the reach of millions.

Equipment Depreciation Rates For D. L. & W., C. of N. J.

Equipment depreciation rates for the Delaware, Lackawanna & Western, and the Central of New Jersey and its affiliate, the Central of Pennsylvania, are among those prescribed by the Interstate Commerce Commission in a recent series of sub-orders in the general proceeding, Depreciation Rates for Equipment of Steam Railroad Companies.

The rates for the D. L. & W. are as follows: Steam locomotives, 3.13 per cent; Diesel-electric road locomotives, 4.8 per cent; Diesel-electric yard locomotives, 3.77 per cent; freight-train cars, 3 per cent; sleeping and parlor cars, 3.15 per cent; other passenger-train cars, 2.6 per cent; floating equipment (owned), 2.76 per cent; floating equipment (leased), 2.28 per cent; work equipment, 4 per cent; and miscellaneous equipment, 11.36 per cent.

The rates for the C. of N. J. are as follows: Steam locomotives, 2.62 per cent; other locomotives (owned), 3.21 per cent; other locomotives (leased), 4.85 per cent; freight-train cars, 2.33 per cent; passenger-train cars, 2.31 per cent; floating equipment, 2.16 per cent; work equipment, 2.6 per cent; and miscellaneous equipment, 16.17 per cent.

The rates for the C. of P. are as follows: Steam locomotives (leased), 2.53 per cent; other locomotives (owned), 4.85 per cent; other locomotives (leased), 3.21 per cent; freight-train cars (owned), 2.51 per cent; freight-train cars (leased), 2.27; passenger-train cars (leased), 2.32 per cent; and work equipment (leased), 2.47 per cent.

Railroad Radio Broadcasts Begin October 4

"The Railroad Hour," a series of musical comedy and operetta broadcasts sponsored by the Association of American Railroads, as reported on page 44 of *Railway Age* for August 7, 1948, will be inaugurated Monday, October 4. Similar broadcasts will be presented each Monday evening after that date over the network of the American Broadcasting Company from 8 to 8:45 p.m., Eastern, Mountain and Pacific standard time, and from 7 to 7:45 p.m., Central standard time.

The programs will also present brief sketches depicting the essential part railroads play in the life of the nation.

Originating in Hollywood, Cal., the program will feature big-name guest stars, with Gordon MacRae as host and master of ceremonies, Carmen Dragon as orchestra conductor, and Norman Luboff as choral director.

Harriman Safety Medals To Be Awarded Sept. 15

The E. H. Harriman Memorial Gold Medals for the best safety records in 1947 among domestic Class I railroads will be awarded on September 15 at a dinner to be held at the Hotel Ambassador, New York. The Norfolk & Western will receive the gold medal for class A roads (those operating more than 10,000,000 locomotive-miles annually); the Charleston & Western Carolina for class B roads (those operating less than 10,000,000 locomotive-miles but more than 1,000,000); and the Canadian Pacific lines in Vermont for class C roads (those operating less than 1,000,000 locomotive-miles).

Certificates of commendation for outstanding performances in railroad safety will be awarded to the following: Eastern district—Reading (class A), Detroit, Toledo & Ironton (class B), Missouri-Illinois (class C); Western district—Great Northern (class A), St. Louis Southwestern (class B), Lake Superior & Ishpeming (class C); Southern district—Southern (class A), Georgia (class B), Mississippi Central (class C).

The awards will be presented by Robert V. Fletcher, special counsel of the Association of American Railroads and chairman of the American Museum of Safety's award committee. Presiding at the dinner will be Wallace J. Falvey, president of the museum. Revelle

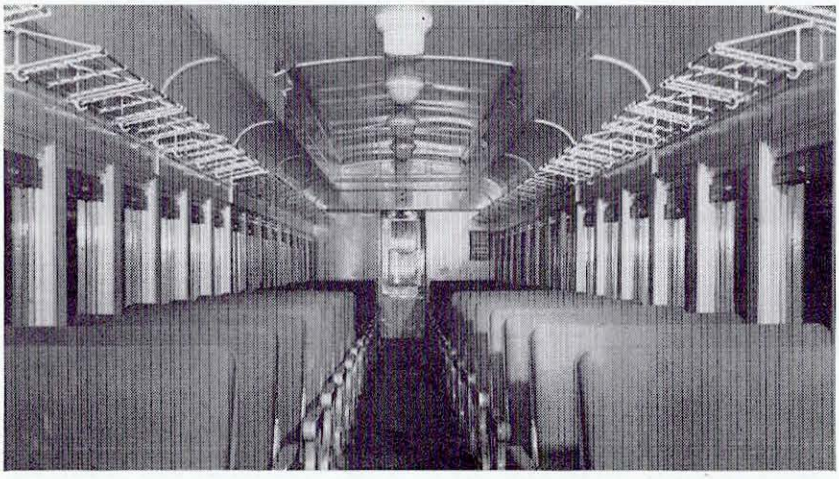
W. Brown, president of the Reading, and Harry W. Fraser, president of the Order of Railway Conductors and of the Railway Labor Executives Association, will speak at the dinner. The Arthur Williams Memorial Medal will be presented to Julien H. Harvey, manager, accident prevention, Association of Casualty and Surety Companies, by Donald B. Armstrong, chairman, Arthur Williams Memorial Award Committee.

C. of N. J. Commuters Select "New Look" for Road's Coaches

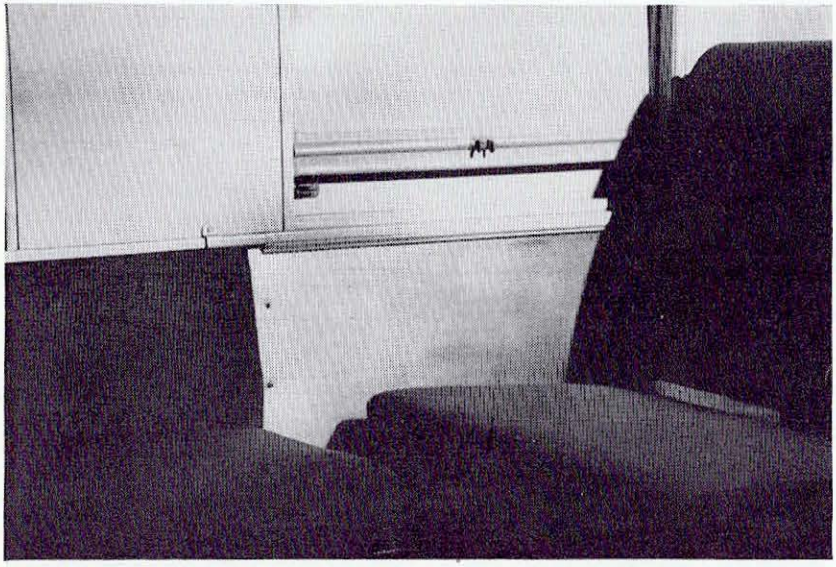
Central of New Jersey commuters have selected nylon as a seat covering and sea green and beige as their favorite interior color combination for the road's coaches, it was announced last week by E. T. Moore, chief executive officer of the C. of N. J. The selections were indicated on ballots distributed during June and July while four proposed "new look" coaches were on public exhibition for 15 days at 8 of the road's principal stations. (See *Railway Age* of June 26, page 129). The commuters also voted preference for a new seating arrangement at the coach ends and decided against having more than one color of seat upholstery in a single coach.

As a result of the voting, Mr. Moore said, the new color combination, a harmonizing green nylon fabric and the new seating arrangement will be applied to all C. of N. J. coaches as they pass through the Elizabethport, N. J., shops for reconditioning. For a test period, two weaves of nylon, one smooth and the other ribbed, will be used to determine which proves more satisfactory under actual service conditions. In addition to the improvements selected by the commuters, Mr. Moore added, all the "new look" coaches will be equipped with (1) improved lighting systems which, combined with the new color scheme, will provide over 100 per cent more light; (2) Rigid-Tex stainless steel wainscoting on the wall between the floor and the window sill, and (3) plastic-coated window shades. The first of the refurbished coaches will be ready for service this month, and additional cars will follow thereafter at the rate of 4 or 5 a month until the program is completed.

"The program will not increase the cost of commuter service," Mr. Moore said. "Materials for modernizing the coaches have been very carefully selected so that any slight increase in costs, as compared with old-style materials, will be offset by reduced maintenance costs and ability to keep the coaches cleaner with less expense."



Seats in the foreground of this Central of New Jersey coach are upholstered in the nylon selected by commuters during the recent poll conducted by the road



The Rigid-Tex wainscoting to be used between floors and window sills on all C. of N. J. coaches as part of the modernization program

Washington Hearing in Bus Fare Probe Postponed to November 4

The Interstate Commerce Commission has set back to November 4 the Washington, D. C., hearing previously scheduled for September 28 in the No. MC-C-550 investigation of bus fares. This is the third postponement of the hearing, originally scheduled for June 15.

Approves Monthly Steel Allocations For Barge, Towing Vessel Program

The Office of Industry Cooperation of the Department of Commerce has approved a voluntary plan providing approximately 20,000 tons of steel products monthly from October through February, 1949, for the construction, conversion and repair of domestic freight-carrying barges and towing vessels of 3,000 gross tons or less for inland waterway or harbor use. The plan, to be supervised by the Office of Defense Transportation, was developed by the O.I.C. after consultation with the steel industry and other government agencies concerned.

Court to Rule on Union Claim of Extra Pay for Hose Coupling

The question of whether trainmen and conductors of the Illinois Central are entitled to an additional day's pay for coupling chores is expected to be ruled upon by the federal district court at Chicago during its October term. In a suit filed by the railroad on August 23 against the Brotherhood of Railroad Trainmen, the Order of Railway Conductors of America and members of these two unions, the I. C. has asked that some $300,000 in claims set by the defendants for such duty be declared invalid. In a series of claims filed since 1947, the trainmen and conductors are seeking a full day's additional pay for coupling and uncoupling air and steam hose, even though only one coupling was made.

In its complaint, the road explains that in 1911 an agreement was reached between itself and the trainmen and the conductors whereby the latter class of employees "will not be required to

couple or uncouple air or steam hose where carmen are employed." The intent of the rule, says the road, was to "relieve trainmen and conductors from such work only when these employees and carmen were both present and in the immediate proximity of and available for such work."

The claims filed by the defendants, declares the railroad, are based upon the theory that because carmen are employed at certain points at some time during the daily period of 24 hours, or may be on duty but not available at the time such necessary work must be performed in order that trains may be moved with economy and reasonable dispatch, trainmen performing such work are entitled to a full day's additional pay therefor even though only one coupling is made.

The I. C. asserts that the 1911 ruling is "directory" only and that the work in question is inherent in the every-day operations of trains and is a necessary part of the work of the defendant.

I. C. Sends Agent to Latin America to Promote Trade

For the third time in as many years, the Illinois Central is sending a representative to tour Latin America for the purpose of promoting greater two-way trade between that area and the midland section of the United States. Robert H. Brown, the I.C.'s general agent, export and import traffic, planned to depart by air from New Orleans, La., on September 11 and return on November 22.

Mr. Brown will visit Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Puerto Rico, the Dominican Republic, Haiti and Cuba. The railroad said he will confer with government leaders and prominent business men in each of these countries to inform them of the trade possibilities existing in the 23-state area of the central U.S. and of the economy and service extended by New Orleans and the other southern ports when handling foreign traffic.

New Haven to Provide Telephone Service on 2 Shore Line Trains

Radio-telephone service will be available on the eastbound and westbound "Merchant's Limited" and the eastbound and westbound "Yankee Clipper" by the middle of September, it was announced this week by the New York, New Haven & Hartford. Calls may be made between the trains and anywhere in the United States and Canada, as well as to and from South America and overseas points. The service will be provided in cooperation with the Southern New England Telephone Company, the New England Telegraph & Telephone Co. and the New York Telephone Company.

The club car carrying the new equipment will be the head-end car on each train and the service will be available to coach and parlor car passengers. The installation will consist of two adjacent booths, one for the uniformed woman operator, the other for the passenger making the call. In general, regular telephone rates will apply and calls can be placed at any time during the Boston, Mass.-New York trip. For incoming calls, the operator uses a public address system enabling her to page the person called by means of loud-speakers in each car of the train.

Whitman of "Q" to Succeed Elsey of Western Pacific

Charles Elsey, president of the Western Pacific since 1932, will retire on December 31 of this year, the road's board of directors announced on September 7. Harry A. Mitchell, vice-president and general manager, has been elected to succeed Mr. Elsey until June 30, 1949, at which time Mr. Mitchell will also retire to be succeeded by Frederic B. Whitman, now general superintendent of the Chicago, Burlington & Quincy at Lincoln, Neb. Mr. Whitman will join the Western Pacific on October 1 as executive vice-president, a newly created position.

Coal and Ore Rate Case Docketed as No. 30052

The Interstate Commerce Commission has docketed as No. 30052 the recently-filed petition whereby the railroads are seeking authority to make additional increases in line-haul freight rates on coal, coke and iron ore. This was announced in a September 7 notice by I.C.C. Secretary W. P. Bartel.

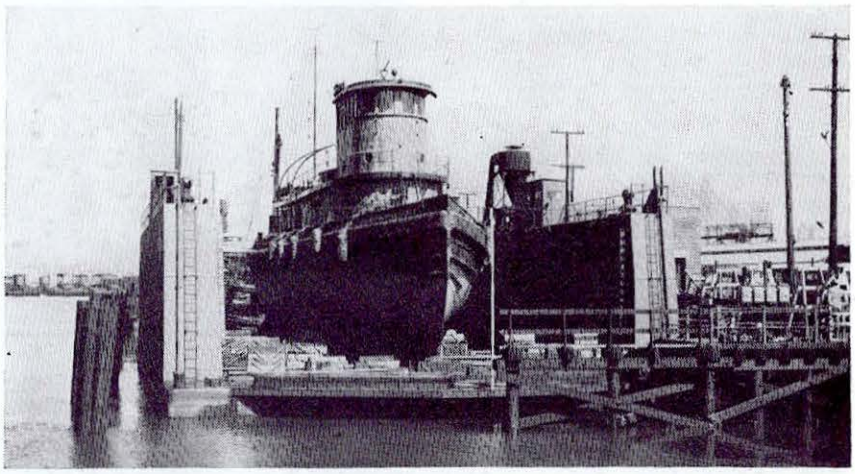
As to requests that the commission fix a time within which answers should be filed by parties desiring to be heard in opposition, the Bartel notice had this to say: "Answers are unnecessary. Instead, it will be convenient if persons wishing to be heard will advise the commission to that effect, and request that they receive copies of notices, etc., issued in the proceeding. Advance information of this character will facilitate the work of the commission. When the matter comes on for hearing, persons desiring to intervene may do so without filing a petition or other pleading, by complying with Rule 73 of the Rules of Practice."

The railroad petition was outlined in the *Railway Age* of September 4, page 52. It proposes to increase rates on coal and coke throughout the country by 25 cents per net ton or 28 cents per gross ton, and on iron ore 20 cents per ton, net or gross as rated, except within Western territory where no increase on iron ore is sought.

Rail Executives to Advise on All-Purpose Chicago Terminal

Governor Dwight H. Green of Illinois has selected 11 railroad leaders as members of his advisory council on the all-purpose National Transport Terminal proposed for construction at Chicago. As first noted in *Railway Age* of December 14, 1946, the terminal would comprise some 25,000 acres about 23 miles southwest of Chicago and would embody rail, air, highway, urban service and subway transportation facilities.

The project was suggested by Col. Francis H. Miles, an Army industrial engineer, now retired. Col. Miles, who is now serving as executive director of the governor's Advisory Council for the project, with headquarters at Chicago,



FLOATING DRY DOCK FOR ERIE'S FLEET—The Erie has placed in service this 130-ft. floating dry dock to handle the vessels of its New York Harbor fleet when they are scheduled for underwater repairs at the road's marine terminal at Jersey City, N. J. The dock is submerged by flooding six tanks in its hull, after which the vessel to be repaired is maneuvered into position and made fast. Pumping water from the tanks raises the dry dock and its load. Capable of lifting vessels up to 700 tons, the dock will care for most of the 237 units in the Erie's fleet. Its use will eliminate expensive dry-dock charges at private ship yards

placed the cost of the proposed terminal at $1.5 billion. He said it would be financed by federal, state and city governments, along with assistance from the railroads, air, bus and truck lines and other agencies.

In a press conference last week, Col. Miles said: "America's transportation muddle is a grim threat to our national defense. Chicago, as the defense center of the nation, is the logical place where positive corrective action must be taken first. Failure to solve the Chicago freight and passenger traffic jam might well mean the defeat of the United States in the event of an atomic war."

Among those serving on the governor's Advisory Council are the following railroad presidents. A. K. Atkinson, Wabash; T. D. Beven, Elgin, Joliet & Eastern; J. D. Farrington, Chicago, Rock Island & Pacific; Fred G. Gurley, Atchison, Topeka & Santa Fe; Wayne A. Johnston, Illinois Central; R. B. White, Baltimore & Ohio; and R. L. Williams, Chicago & North Western. Other railroad executives on the council are: T. A. Blair, chief engineer, Santa Fe; R. E. Dougherty, vice-president, New York Central; P. E. Feucht, vice-president, Pennsylvania; and L. O. Head, president, Railway Express Agency, Inc.

Says Royal Commission Cannot Investigate Canadian Freight Rates

Formation of a Royal Commission to investigate freight rates, as demanded by seven Canadian provinces, would be illegal, according to an opinion submitted to the federal cabinet at Ottawa, Ont., by the Canadian Department of Justice.

The Justice Department's opinion holds that the government has no authority to name such a commission to examine the general freight rate structure and related matters, because this power has been delegated by an act of Parliament to the Board of Transport Commissioners. Amending legislation from Parliament to alter the Public Inquiries Act would be required to permit a rate survey by a Royal Commission.

It has been reported, however, that the government may seek to satisfy the various provinces by setting up a commission to deal with the general transportation situation, while leaving to the Transport Board specific consideration of the railroads' pending application for interim and permanent freight rate increases of 15 and 20 per cent, respectively. Application for these increases was reported on page 51 of *Railway Age* for July 31, and their political implications were briefly reviewed on page 46 of the August 7 issue.

Consideration of the pending rate applications is not likely to be opened until the cabinet has dealt with the appeal of the seven provinces from the action of the Transport Board in awarding a 21 per cent freight rate boost last March.

Meantime, M. J. Coldwell, Socialist leader in the House of Commons at Ottawa, has demanded a special session of Parliament to deal with freight rates. This makes it plain that the Socialist party will make railroad rates one of its big issues in the next federal general election in 1949.

The automotive association has sent to the prime minister a letter asking that it be excluded from the inquiry into freight rates soon to be opened by the Transport Commission. The association takes the position that its members are governed by provincial rather than by federal authorities. Parliament, on the other hand, is reported to be turning to the prospects of another drive for legislation which will require truck competitors of the railroads to operate under more competitive conditions.

N.L.R.B. Mixes Traffic Solicitors With Clerks in Bargaining Unit

Traffic solicitors, or "salesmen," of the Wells Fargo Carloading Company, a regulated freight forwarder, are not part of management and must be considered as part of a single bargaining unit covering all clerks, switchboard operators, bill strippers, cartage clerks, billers, stenographers, rate clerks, other clerks, and general office workers of the company, according to a decision of the National Labor Relations Board (Case No. 13-RC-32) recently handed down at Washington, D. C. As a result of this finding, an election was held on August 18 in the Chicago station of Wells Fargo in which the employees so named were grouped for voting, the four solicitors employed by the station having no opportunity to vote as a separate class of employee. The Office Employees International Union, Local No. 28, A.F. of L., won the election by a vote of 10 votes out of 18 cast and has subsequently presented the station manager with a proposed contract which, it is understood, would place the four traffic solicitors under rules of seniority and pay increases similar to those generally provided for rank-and-file workers.

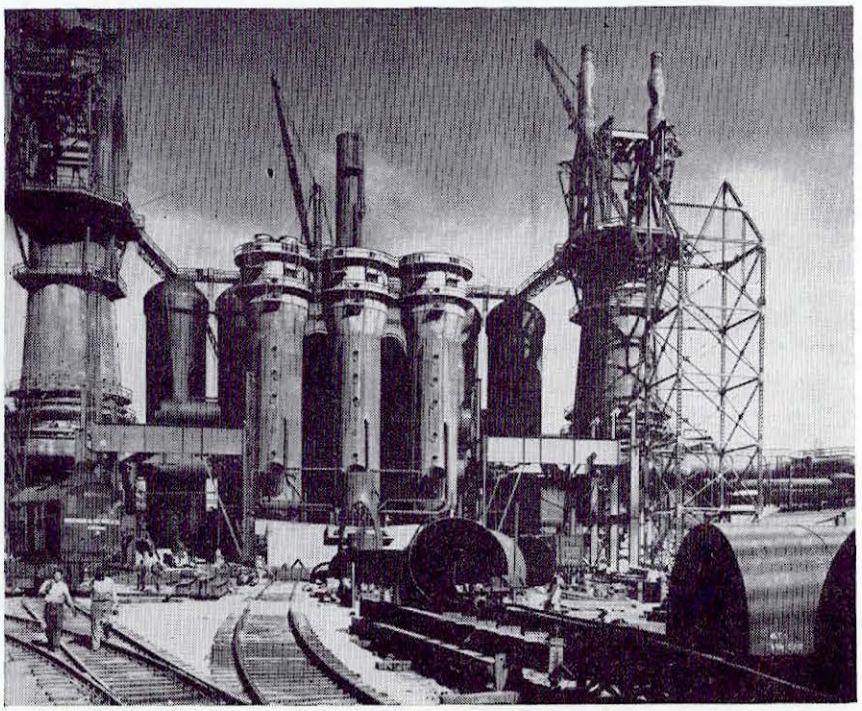
Railroad Fire Losses Slightly Lower in 1947

Financial losses from 5,398 fires on 249 American and Canadian railroads in the calendar year 1947 totaled $10,571,345, according to News Letter No. 111 of the Fire Protection and Insurance Section, Association of American Railroads.

While the number of individual fires was almost identical with the 5,411 reported by fewer roads for 1946, the financial loss was three per cent less. The average number of fires and average dollar loss per mile of road reported were each approximately five per cent less.

The number of fires in 1947 was nearly 15 per cent below the average of 6,340 for the 28 earlier years (1919-1946) for which figures are available, but financial losses were considerably above the 28-year average.

Classified by cause, the 1947 fires and



The Carnegie-Illinois Steel Corporation (a United States Steel subsidiary) is completing two new blast furnaces at South Chicago, Ill., as part of the corporation's $775 million development program

Railroads, Non-Ops Begin Negotiations at Chicago

Representatives of the railroads and of the 16 non-operating unions began negotiations behind closed doors at Union Station in Chicago on September 8, on the brotherhoods' latest wage demands. The unions are seeking a pay increase of 25 cents an hour, 48 hr. pay for a 40 hr. work-week, double time on Sundays and holidays, and time and one-half for Saturdays and for all time in excess of 8 hr. on any weekday.

The railroads are being represented by chairmen of the Western, Eastern and Southeastern Carrier Conference Committees, who are, respectively, Daniel P. Loomis, executive director, Association of Western Railways; H. A. Enochs, chairman, executive committee, Bureau of Information of the Eastern Railways; and C. D. Mackay, chairman, executive committee, Bureau of Information of the Southeastern Railways. The brotherhoods' delegations are headed by G. E. Leighty, president of the Order of Railroad Telegraphers.

Negotiations between the carriers and representatives of the five operating unions have been set to begin next week, also at Chicago. On September 14, conference committees of the railroads will begin sessions with the trainmen and conductors, who are seeking a 25 per cent wage increase. Meetings also have been scheduled beginning September 14 between the carriers and the three remaining operating brotherhoods representing the engineers, firemen and enginemen and switchmen. The latter talks are, in effect, a continuation of negotiations from the point where the two parties left off at the time of their August 11 agreement, whereby the three hold-out unions were awarded a 15½ cents per hour basic-wage increase, plus certain rule changes (see *Railway Age* of August 21, page 63).

fire damage were divided as follows: Heating, 692 fires, $643,312; lighting, 92 fires, $133,124; power, 1,073 fires, $889,485; occupational, 566 fires, $539,733; outside causes, 842 fires, $1,323,415; miscellaneous, 939 fires, $2,126,993; and general, cause unknown, 1,194 fires, $4,915,283. Of the fires starting from miscellaneous causes, 419, with a loss of $382,937, were directly attributed to smoking or careless use of matches, but the report emphasizes that many other fires from unknown causes also presumably originated in those ways.

By classes of property damaged, 1947 fires and fire losses were divided as follows: Rolling stock and contents, 3,248 fires, $4,934,625; buildings and contents, 1,277 fires, $4,886,890; bridges, trestles and culverts, 262 fires, $355,957; tunnels, snowsheds and fences, 78 fires, $12,680; material in storage on right-of-way and in yards, 143 fires, $54,770; unclassified, 390 fires, $326,423.

Three major fires accounted for 37.2 per cent of all railroad fire loss in 1947; while 10 other fires accounted for another 10.0 per cent.

The text of the report is devoted largely to discussion of fire protection of Diesel locomotives, of cotton in transit, and building roofs; and to emphasis on the need for control of smoking.

July Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for July and for this year's first seven months. The compilation, which is subject to revision, follows:

Item	Month of July		7 months ended with July	
	1948	1947	1948	1947
Number of train accidents*	978	1,292	7,074	9,727
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	150	147	788	762
Injured	133	124	653	654
Passengers on trains:				
(a) In train accidents*				
Killed	—	—	17	33
Injured	23	43	674	775
(b) In train-service accidents				
Killed	3	—	13	20
Injured	295	330	1,599	1,626
Travelers not on trains:				
Killed	2	1	5	6
Injured	74	72	598	536
Employees on duty:				
Killed	31	46	327	437
Injured	2,478	3,074	18,054	20,999
All other nontrespassers:**				
Killed	132	154	945	1,155
Injured	438	445	3,655	3,809
Total—All classes of persons:				
Killed	318	348	2,095	2,413
Injured	3,441	4,088	25,233	28,399

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $150 to railway property in 1947. Beginning January 1, 1948, this minimum was raised to more than $250 Only a minor part of the total accidents result in casualties to persons.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers, were as* follows:

Persons:				
Killed	118	138	861	1,053
Injured	233	255	2,250	2,347

Extends Embargo on Freight For West Coast Strike Area

An embargo on freight moving to Atlantic and Gulf Coast ports for shipment by water to the Pacific Coast was imposed on September 8 by the Association of American Railroads. This action was taken because of the transportation tie-up caused by the West coast maritime strike. The embargo does not affect rail freight going to Eastern ports for local use or for transfer to ships bound for foreign ports.

Freight Car Loadings

Total loadings of revenue freight during the week ended September 4 were not available as this issue went to press.

Loadings of revenue freight for the week ended August 28 totaled 891,495 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

Revenue Freight Car Loadings

For the Week Ended Saturday, August 28			
District	1948	1947	1946
Eastern	154,338	164,445	166,046
Allegheny	182,940	195,820	201,221
Pocahontas	74,204	73,436	73,320
Southern	131,653	131,703	134,387
Northwestern	144,665	148,443	135,044
Central West.	135,220	144,709	135,528
Southwestern	68,475	67,156	62,894
Total Western Districts	348,360	360,308	333,466
Tot. All Rds.	891,495	925,712	908,440
Commodities:			
Grain and grain products	52,519	57,439	48,068
Livestock	11,318	12,552	15,230
Coal	183,885	180,091	190,120
Coke	14,756	14,038	14,605
Forest prods.	53,403	50,281	51,501
Ore	76,738	81,499	65,549
Merchan. l.c.l.	106,032	119,182	123,165
Miscellaneous	392,844	410,630	400,202
August 28	891,495	925,712	908,440
August 21	900,572	900,895	884,955
August 14	891,277	906,305	887,553
August 7	878,901	905,244	899,086
July 31	894,381	921,591	898,391
Cumulative total, 35 weeks	28,512,045	29,505,328	26,901,153

In Canada.—Carloadings for the week ended August 28 totaled 84,995 cars as compared with 80,250 cars for the previous week and 81,553 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
August 28, 1948..	84,995	33,742
August 30, 1947..	81,553	35,830
Cumulative totals for Canada:		
August 28, 1948..	2,642,071	1,304,645
August 30, 1947..	2,559,402	1,278,280

ORGANIZATIONS

The **Southeast Shippers Advisory Board** will hold its eighty-third meeting on September 16, at the Edgewater Gulf Hotel, Edgewater Park, Miss.

The **Pacific Northwest Advisory Board** will hold its 72nd regular meeting on September 16 and 17 at the Davenport hotel in Spokane, Wash. The guest speakers at this meeting will be R. E. Saberson, trade promotion manager of the Weyerhaeuser Sales Company and Dr. N. H. Engle, director, Bureau of Business Research, University of Washington.

The **Canadian Railway Club** will meet September 21, 8 p.m., at the Mount Royal Hotel, Montreal, Que.

William J. Patterson, a member of the Interstate Commerce Commission, will address the **Railway Club of Pitts-**

burgh at its meeting on September 23, 8 p.m., at the Fort Pitt Hotel, Pittsburgh, Pa. The film "Clear Track Ahead" will also be shown.

A paper entitled "When the Railroad Came to Reading," was read before the **Schuylkill Valley Committee** of the **Newcomen Society of England** by William W. Rhoads, secretary and treasurer of the Reading, at Reading, Pa., August 19. Mr. Rhoads' address dealt largely with the early history of his company, and its influence on the growth and development of its namesake city.

SUPPLY TRADE

Joseph A. Teece, assistant to the president of the **Fansteel Metallurgical Corporation** has been elected vice-president. The company also has announced the acquisition of all the common stock of the **Vascoloy-Ramet Corporation** held by the Vanadium-Alloys Steel Company. Before this transaction, two-thirds of the common stock of Vascoloy-Ramet was owned by Fansteel and one-third by Vanadium-Alloys. Vascoloy-Ramet will continue to be operated under its own name as a division of Fansteel.

Henry V. Bootes, formerly district sales manager, New York sales district, of the **American Car & Foundry Co.,** has been appointed assistant vice-president. He will continue to make his headquarters in New York. Before he joined

Henry V. Bootes

American Car & Foundry in 1947, Mr. Bootes was district manager of the Ohio Injector Company. During World War II he served as a major in the United States Marine Corps.

R. F. Dierking, district engineer in charge of the **Portland Cement Association's** office in Des Moines, Iowa, has been appointed manager of the association's West Central offices, with headquarters at Kansas City, Mo., succeeding **R. W. Winters,** who has resigned. **Fred F. Loy,** association field engineer in Iowa for the past 11 years, has been appointed to succeed Mr. Dierking.

Allen I. Barr has been appointed western sales manager of the **American Creosoting Company** and subsidiaries, with headquarters at St. Louis, Mo.

Durward I. Packard, whose election as vice-president in charge of sales of the **Pyle-National Company,** at Chicago, was reported in *Railway Age* of September 4, was born on November 26, 1894, in Granville Township, Pa. He was educated in the public schools at Jersey Shore, Pa., and in 1911 was employed by the New York Central in its motive power department. Mr. Packard joined the Franklin Railway Supply

Durward I. Packard

Company in 1924, serving successively as supervisor of manufacturing operations, plant manager at Baltimore, Ohio, and assistant western sales manager at Chicago. In 1944 he became associated with the Baldwin Locomotive Works as district manager, Northwestern district, at Chicago, which post he held at the time of his election as vice-president of Pyle-National.

Arthur R. Byrnes has been appointed sales manager of the packing and textile divisions of the **Union Asbestos & Rubber Co.** at Chicago.

G. Luke Mizell, senior field engineer of the **Eutectic Welding Alloys Corporation,** has been appointed regional sales supervisor in the middle and south Atlantic area of the United States, and will be responsible for the group of 160 field engineers active in that region.

The **Hyster Company** has announced the appointment of **Shipping Utilities** of St. Louis, Mo., as its new truck distributor to handle sales, parts and service in 36 counties of Missouri and 50 counties of Illinois.

L. G. Fields, district manager at Jacksonville, Fla., for the **Graybar Electric Company,** has been appointed district manager at Richmond, Va., effective November 1. Mr. Fields will succeed **J. H. Pearson, Jr.,** district manager at Richmond for 22 years, who is retiring at his own request.

The **General Electric Company** has announced the appointment of the **Graybar Electric Company** as national distributors for the resin and insulation materials division of General Electric's chemical department.

EQUIPMENT AND SUPPLIES

10,362 Freight Cars Built Last Month

Freight cars produced last month for domestic use totaled 10,362 including 2,912 built in railroad shops, compared with July production of 8,706, including 1,832 built in railroad shops, the American Railway Car Institute has announced. August production, the institute said, included 4,290 box cars, 3,618 hopper cars, 616 refrigerator cars, 1,113 gondola cars, 625 tank cars, 84 cabooses, 9 stock cars and 7 flat cars. New freight cars ordered last month for domestic use amounted to 3,788, including 1,950 cars ordered from railroad shops, compared with July orders for 11,923, which included 2,686 ordered from railroad shops. The backlog of freight cars on order and undelivered on September 1 was 117,815, including 34,880 on order from railroad shops.

SIGNALING

The Chicago, Rock Island & Pacific has placed orders with the Union Switch & Signal Co. for materials required for the installation of an electro-pneumatic car retarder system in the railroad's expanded classification yard now under construction at Armourdale, Kan. The orders include 10 car retarders totaling 1148.3 rail feet of retarder, 44 direct-acting electro-pneumatic switches, 3 control machines, with the necessary housings, relays, rectifiers and transformers for detector track circuits for the switches, and color-light type signals for the control of humping operations. The field installation will be done by railroad signal construction forces.

MARINE

The **Erie** has ordered 5 steel carfloats, 2 of 16-car capacity and 3 of 10-car capacity, from the Bethlehem Steel Company, and 15 steel lighters and 10 covered barges from the Wiley Manufacturing Company. Delivery of this equipment is expected next March.

CONSTRUCTION

Beaumont, Sour Lake & Western.—This road has requested Interstate Commerce Commission authority to construct and operate a line extending from Gulf Coast, Tex., to a connection with the International-Great Northern at a point near Percival Junction, 1.6 miles. The new line, the applicant said, will facilitate its interchange of traffic with the I.-G.N. and also enable that road to operate into a new yard being constructed by the B.S.L.& W. The I.-G.N., in an accompanying application, seeks commission authority to operate under a trackage rights agreement over 4.5 miles of the B.S.L. & W., including the new line which the latter proposes to construct.

Denver & Rio Grande Western.—The company forces of this road are constructing additional yard tracks at Salina, Utah, and Ephraim, to accommodate additional traffic on the Marysvale branch. The project will cost an estimated $61,000. Yard tracks and tipple tracks are being constructed at Hayden, Colo., for the Edna Coal Company, at a cost of $51,000. Grading work in connection with this project will be performed by the coal company and track work by railroad forces.

Louisville & Nashville.—As noted briefly in *Railway Age* of August 14, page 83, this road is engaged in extending and rehabilitating spur tracks in Kentucky to serve new coal mining operations. Details of these projects are as follows: (1) Construct mine tracks to serve the Jewel Ridge Coal Company on Blair Fork spur, at a total estimated cost of $86,575. A grading contract amounting to $29,285 has been awarded to the J. C. Codell Construction Company. Track work will be performed by railroad forces (2) Construct industrial lead, run-around track and spur at Bowling Green, Ky., at cost of $20,360. Right of way for the project was donated by the Bowling Green Chamber of Commerce and the work is being performed by L. & N. forces. (3) Lay mine tracks for the Green Coal Company at Mattingly, Ky., Evansville division, at a cost of $59,273, exclusive of grading and drainage, which is to be provided by the coal company. (4) Extend branch line tracks in the West Kentucky coal field to serve Vogue and Bell Zollar coal mines. The project will cost approximately $284,000, with grading by the coal company and track work by the railroad. (5) Construct mine tracks to serve the Four Seam Coal Company located on Blair Fork spur, at an estimated cost of $91,915. The J. C. Codell Construction Company is the grading contractor. (6) Construct 2.52-mi. spur up Camp Creek branch, Eastern Kentucky division, at a cost of $252,000. (7) Construct spur track to serve the West Diamond mine of the West Kentucky Coal Company at Madisonville, Ky., Evansville division, at an estimated cost of $209,000. This work will be a joint project of the L. & N. and the Illinois Central. A contract for grading and drainage is yet to be awarded. The L. & N. has also authorized the installation of flashing light signals at six crossings in Newport, Ky. The cost is estimated at $29,770.

ABANDONMENTS

Great Northern. — Following recommendations of a proposed report by Examiner A. G. Nye, as noted in *Railway Age* of April 24, page 70, Division 4 of the Interstate Commerce Commission has denied this road's application for authority to abandon a branch line extending approximately 12.6 miles from a connection with its Billings-Great Falls main line at Gerber, Mont., to Giffen. The application was denied without prejudice to the G.N.'s refiling for similar authority after one year from August 26.

The public need for continued operation, the commission said, arises from the transportation requirements of two shippers and a large number of producers with whom they deal. "It does not appear," it continued, "that traffic on the line has been affected to any appreciable extent by the competition of motor trucks, or that those who use it have not done so to the fullest extent of their needs. The protestants will be given an opportunity to demonstrate their needs for the line. Operation for another year under present conditions should develop with reasonable certainty whether the line can be operated without burdening the remainder of the system."

Harriman & Northeastern.—This road has asked the Interstate Commerce Commission to dismiss without prejudice its application for authority to abandon its line between DeArmond, Tenn., and Petros, 13 miles. Since the time the application was filed, the H. & N. said, the Tennessee Railroad & Public Utilities Commission has authorized it to increase its intrastate rates on coal from Petros to Tennessee destinations. The increase, it added, was authorized in order to boost its earnings and thereby overcome, if possible, the necessity of further pursuing the abandonment application. The applicant said it was willing to "try out for a reasonable time" the effect of the increase.

Southern.—The Interstate Commerce Commission has extended from July 28 to October 1 the effective date of its order wherein, as reported in *Railway Age* of August 7, page 48, it authorized this road to abandon that portion of its so-called Rome-Attalla line extending approximately 50 miles from Rome, Ga., to a point 2 miles east of Gadsden, Ala., and within the switching limits of Attalla. Postponement of the effective date of the order for 60 days was requested by the attorney general of Alabama.

Application has been filed with the Interstate Commerce Commission by:

Louisiana & North West.—To abandon its line between Gibsland, La., and Chestnut, approximately 37 miles. The applicant told the commission that the line is in an "extremely poor" condition and that an expenditure of $360,000 would be required to rehabilitate it for safe and economical operation. The line has been operated at an annual deficit of over $69,000, the applicant said, adding that such a continued drain upon its resources eventually would result in the bankruptcy of the entire road.

Division 4 of the I.C.C. has **authorized:**

Atlantic Coast Line.—To abandon its line between Anguilla, Ga., and Southern Junction, 6.1 miles. At the same time, the commission authorized the A.C.L. to construct at those two points tracks connecting with its Southern division, which closely parallels the line to be abandoned. The lines to be constructed total 3,772 ft.

CAR SERVICE

Revised I.C.C. Service Order No. 396, which requires reconsignment of refrigerator cars within 48 hrs. from the first 7:00 a.m. after arrival at a diversion point, has been suspended until September 22. The suspension was ordered, effective September 8, in Amendment No. 1 to the order.

Revised I.C.C. Service Order No. 775, which maintains super-demurrage charges on all types of freight cars, except refrigerator cars carrying perishable shipments, has been modified by Amendment No. 4. The amendment suspends the order's application to cars tied up in New York as a result of the strike of truckers.

I.C.C. Service Order No. 817 has been modified by Amendment No. 1 which set back the expiration date from September 5 until December 31. The order provides for the furnishing of giant refrigerator cars for loadings in Arizona and California at freight rates applicable to standard reefers.

The Office of Defense Transportation has issued General Permit ODT 18A, Revised 20-A, effective September 4. The permit authorizes carload shipments of cranberries at applicable carload minimum weights, thus relaxing the previous minimum-loading requirement of 34,500 lb.

The O.D.T. also has issued Amend-

ment No. 12 to Special Direction ODT 18A-1, effective September 3. The amendment requires the loading of composition and prepared sidings, in straight or mixed carloads, to a weight of not less than 40,000 lb. Previous loading requirements directed that sidings be loaded to the practicable stowage capacity of the freight car.

Aluminum-tank car built by the General American Transportation Corporation for high-speed transportation of liquids without contamination. Aluminum is used because of its light weight and because it is suitable for carrying oils, acids and other chemicals

FINANCIAL

Commission Turns Down Plan For New Atlanta-Savannah Line

Division 4 of the Interstate Commerce Commission has denied the application of the Southeastern for authority to construct and operate a line from Atlanta, Ga., to Savannah, approximately 229 miles. The commission found that the traffic needs of the territory to be served can be met by the "numerous" railroads, truck lines and bus lines now operating there. The applicant, it said, has failed to show a public need for additional rail-transportation facilities sufficient to warrant the proposed construction.

The Southeastern was incorporated on March 21, 1947, at the instance of E. T. Mitchell, of Paoli, Pa., a former Pennsylvania clerk, who, as the commission put it, "designated himself as president and general manager" of the company. The applicant stated that its chief purpose was to furnish "adequate transportation of passengers and property to the general public at cheaper rates than now exist and to put the business concerns along the route in a better position for competitive business."

"As visualized by the applicant," the report continued, "the proposed line would be operated to a degree of efficiency unattainable by any existing road serving either Atlanta or Savannah." The applicant proposed to operate 17 "ultra-modern Diesel-electric streamlined passenger trains" daily, in addition to two local passenger trains. Mr. Mitchell referred to the proposed streamliners as "trains of tomorrow," and said they would be operated "at a speed of 100 m.p.h."

The commission described as "unique" the applicant's plan for financing the project, estimated to cost $28,003,500, including $18,993,000 for construction purposes and $9,010,500 for equipment. The initial amount to be raised would be $500,000, with all contributors to be given promissory notes signed by Mr. Mitchell. The money would be held in trust to build the line with the understanding, however, that the notes would be redeemed by the applicant's capital stock, if and when issued.

Before commencement of construction, the applicant proposed to establish truck service between Atlanta and Savannah, serving all intermediate stations on the proposed line, with equipment for that purpose (costing about $60,000) to be financed from the previously-mentioned $500,000. Construction of the railroad would have been started soon thereafter at Atlanta, and as construction progressed southeasterly, the completed portion of the line would be placed in operation. The entire project was expected to take about four years, the applicant's operations, meanwhile, being partly by truck and partly by rail, necessitating the transfer of traffic from rail to truck, or vice versa, at the point where the truck line met the railroad. Mr. Mitchell, the commission said, expressed the opinion that the Southeastern would realize "considerable profit" from the combined motor-rail operation prior to completion of the line, and that in addition there would be a profit "from the trees that we have to tear down and sell."

Within a short time after commencement of construction of the railroad, the applicant would have sought commission authority to issue capital stock in the amount of $10,000,000, par value, a portion of which would be used to redeem the promissory notes, and the remainder to be applied toward the project. As to the difference of over $18,000,000 between the total cost of the line and the proceeds expected from the sale of the capital stock, Mr. Mitchell, the commission said, stated that "it could be arranged for when the time comes."

Among other things, the commission noted that the applicant has made no survey of the line, nor has it acquired or staked the proposed right-of-way. The engineering, it said, has not progressed beyond the stage of office work. It also noted that approximately 75 per cent of the total business anticipated by the applicant for the first five years of operation would be diverted from other railroads, notably the Atlantic Coast Line, Southern, Seaboard Air Line, and Central of Georgia, all of which intervened in opposition to the Southeastern's proposal.

Alleghany Corporation. — *Note.* — Division 4 of the Interstate Commerce Commission has authorized this company to modify the terms of a $15,000,000 promissory note held by the Chase National Bank of New York so as to make the interest rate on that part of the principal which is secured by cash and government obligations one fourth of 1 per cent above the current discount rate of the Federal Reserve Bank of New York in each quarterly period. The note is dated June 1, 1945, and is due July 3, 1953. As of August 3, Chase held $6,108,000 of federal government 2 per cent treasury bonds and $411 in cash as collateral.

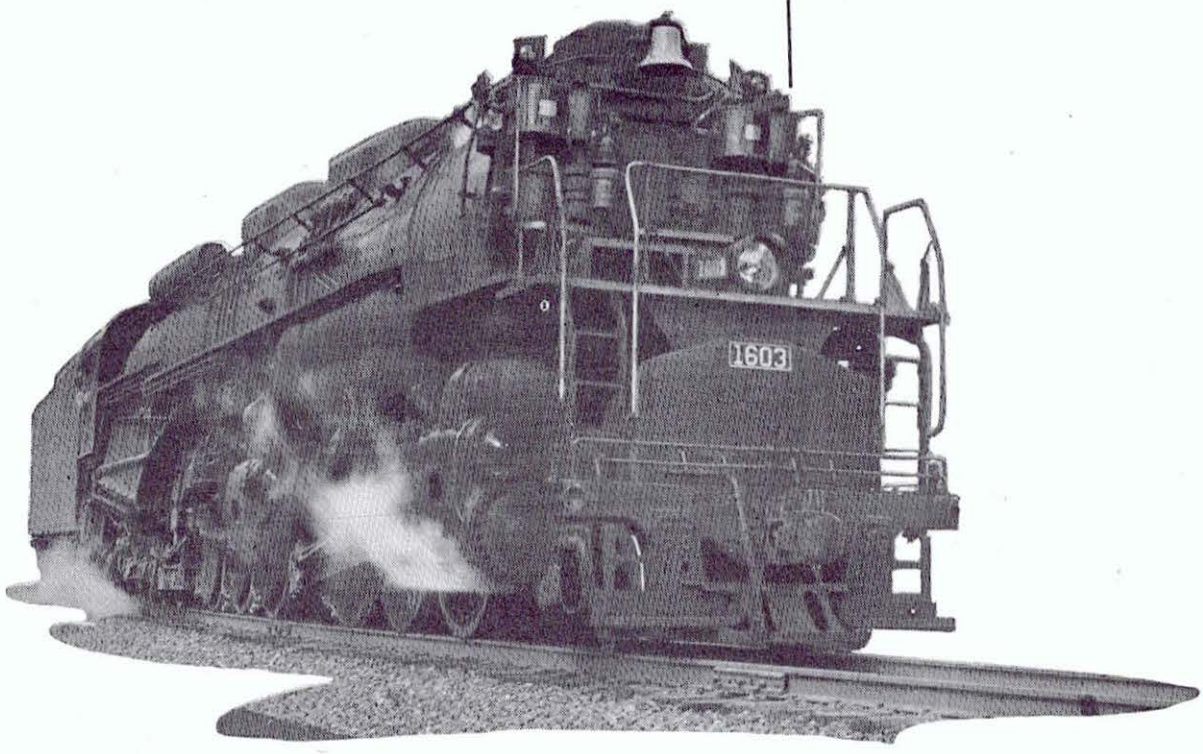
The report noted that Chase and its participating banks, because of rising interest rates generally, are of the opinion that they are not receiving a fair return on a substantial part of the loan, and therefore requested Alleghany to enter into a supplemental agreement to provide an interest rate "more nearly in accord" with present conditions. Alleghany, the commission said, considers that the bank's attitude in this respect is reasonable.

Atlantic Coast Line.—*Annual Report.*— Operating revenues of this road in 1947 were $128,429,922, compared with $126,105,161 in the preceding year. Operating expenses were $112,461,791, compared with $113,728,022. Fixed charges totaled $4,050,995, compared with $4,022,555. Net income was $6,003,953, compared with $5,474,693. Current assets at the end of the year amounted to $45,436,055, compared with $44,743,189. Current liabilities were $22,464,407, compared with $19,761,893. Long term debt was $95,890,654, compared with $96,997,365.

Baltimore & Ohio.—*Annual Report.*— Operating revenues of this company last year amounted to $360,294,994,

News Department continued on next left-hand page

there is a place...



We firmly believe that for a long, long time, there will continue to be a demand for steam locomotives.

Therefore, while we *are* building diesel-electrics for the switching field — and while we *have* the highest hopes for the free-piston gas generator turbine which we are now testing for locomotive use— we will continue to build a complete line of steam locomotives.

We will continue to explore all possible ways of improving such locomotives. We will continue to build them with the traditional fineness of design and manufacture that is responsible for Lima's world-wide reputation. And we will continue to believe that there is a place for these locomotives —for such modern power as the 2-6-6-6's we are now building, as our fifth order for the C&O.

LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.

compared with $304,984,716 in 1946. Operating expenses were $300,377,311, compared with $275,212,289. Fixed charges totaled $18,968,674, compared with $17,826,519. Net income was $9,259,381, compared with $4,560,928. Current assets at the end of the year were $97,215,946, a decrease of $14,472,320. Current liabilities were $58,828,536, an increase of $7,199,446. Long term debt was $596,976,290, an increase of $10,007,813.

Alabama Great Southern.—*Annual Report.*—Operating revenues of this company last year amounted to $16,715,178, compared with $14,445,249 in 1946. Operating expenses totaled $12,815,937, compared with $12,371,826. Fixed charges were $372,410, compared with $371,590. Net income was $2,332,281, compared with $1,563,290. Current assets at the end of the year were $11,027,393, compared with $9,274,875. Current liabilities were $4,049,630, compared with $2,572,015. Long term debt was $12,495,714, compared with $11,547,883.

Central of New Jersey.—*Annual Report.*—Operating revenues of this road in 1947 totaled $37,565,888, compared with $41,896,468 in the preceding year. Operating expenses were $34,165,978, compared with $38,136,554. Fixed charges amounted to $2,455,286, compared with $3,803,406. The net deficit was $3,148,514, compared with a net deficit of $1,978,525. Current assets at the end of the year were $16,550,244, compared with $17,523,275. Current liabilities were $9,428,601, compared with $9,458,367. Long term debt was $50,190,585, compared with $50,316,184.

Chicago, Burlington & Quincy.—*Annual Report.*—Operating revenues of this road last year amounted to $221,179,011, compared with $195,925,665 in 1946. Operating expenses totaled $149,996,344, compared with $139,250,672. Fixed charges were $5,771,614, compared with $6,110,328. Net income was $27,741,871, compared with $23,102,775. Current assets at the end of the year were $86,380,920, compared with $79,442,385. Current liabilities were $49,599,544, compared with $42,264,926. Long term debt was $181,745,400, compared with $185,559,933.

Chicago, Rock Island & Pacific.—*Acquisition.*—This road has applied to the Interstate Commerce Commission for authority to acquire control, through stock ownership, of the Pullman, an industrial switching line in the Chicago area. Pullman's capital stock consists of 5,000 shares of common, par value $100 per share; and the applicant proposes to purchase it all for $1,175,000 from the Pullman Finance & Properties Co., subsidiary of Pullman, Inc. It would then operate the road under lease. The application states that the market price of the stock is not ascertainable; but asserts that the proposed purchase price is supported by the value of the property and its "present and prospective earning power." The purchase agreement, filed with the application, also contemplates that the applicant's subsidiary, Rock Island Improvement Company, will purchase from Pullman Finance, for approximately $1,025,000, about 360 acres of industrial property located along the Pullman's line.

Chicago, St. Paul, Minneapolis & Omaha.—*Annual Report.*—Operating revenues of this company last year were $31,379,285, compared with $27,318,375. Operating expenses were $25,891,136, compared with $23,917,042. Fixed charges totaled $2,404,325, compared with $2,397,845. The net deficit was $676,860, compared with a net deficit of $1,363,100. Current assets at the end of the year were $9,995,266, compared with $9,915,687. Current liabilities amounted to $6,242,031, compared with $5,261,306. Long term debt was $53,495,903, compared with $51,488,409.

Cincinnati, New Orleans & Texas Pacific.—*Annual Report.*—Operating revenues of this company in 1947 totaled $34,854,624, compared with $29,879,580 in the preceding year. Operating expenses were $23,413,171, compared with $22,701,491. Fixed charges were $1,882,667, compared with $1,727,538. Net income totaled $4,386,674, compared with $2,256,644. Current assets at the end of the year amounted to $22,216,632, compared with $18,005,561. Current liabilities were $9,739,956, compared with $7,160,159. Equipment trust obligations outstanding totaled $5,048,000 (of which $820,000 were payable in 1948), compared with $3,998,000.

Colorado & Southern.—*Annual Report.*—Operating revenues of this company last year amounted to $12,767,159, compared with $11,170,290 in 1946. Operating expenses totaled $10,174,191, compared with $9,711,275. Fixed charges were $613,042, compared with $614,857. Net income was $383,207, compared with $7,900. Current assets at the end of the year were $6,791,259, compared with $5,165,414. Current liabilities were $3,734,215, compared with $2,980,062. Long term debt was $41,717,205, compared with $41,540,836.

Duluth, Missabe & Iron Range.—*Annual Report.*—Operating revenues of this company in 1947 totaled $39,402,970, compared with $33,499,727 in the preceding year. Operating expenses amounted to $22,109,206, compared with $18,976,379. Fixed charges were $436,821, compared with $724,557. Net income was $8,543,951, compared with $8,358,602. Current assets at the end of the year were $21,488,077, compared with $21,216,225. Current liabilities were $13,591,086, compared with $10,781,384. Funded debt was $19,720,000, compared with $21,478,000.

Florida East Coast.—*Annual Report.*—Operating revenues of this road last year totaled $27,054,333, compared with $26,543,488 in 1946. Operating expenses were $23,683,283, compared with $20,721,821. The net deficit was $2,674,216, compared with net income of $109,494. Current assets at the end of the year amounted to $25,619,731, compared with $27,459,885. Current liabilities were $1,154,279, compared with $2,416,844. Long term debt was $58,577,714, compared with $57,918,177.

Georgia Southern & Florida.—*Annual Report.*—Operating revenues of this road last year were $6,201,458, compared with $5,508,891 in 1946. Operating expenses were $4,807,573, compared with $4,572,592. Fixed charges amounted to $320,509, compared with $321,404. Net income was $45,070, compared with $238,117. Current assets at the end of the year totaled $2,535,871, compared with $2,115,658. Current liabilities were $1,435,547, compared with $1,143,259. Long term debt was $5,772,974, compared with $5,664,719.

Lackawanna & Wyoming Valley.—*Debt Adjustment.*—The Interstate Commerce Commission has assigned for hearing on October 26 this road's application for authority to consummate a voluntary debt adjustment plan which it has filed pursuant to the so-called Mahaffie Act, as reported in *Railway Age* of August 7, page 51. The hearing will be held at the commission's Washington, D. C., offices before Examiner H. H. Kirby.

Lehigh Valley.—*Atkinson Directorship.*—Division 4 of the Interstate Commerce Commission has dismissed "without prejudice" the application of the Wabash's president, Arthur K. Atkinson, for authority to serve also as a director of the Lehigh Valley. The commission had before it in this proceeding, Finance Docket No. 5832-Sub 3, the proposed report wherein Director C. E. Boles (then assistant director) of its Bureau of Finance recommended that the application be denied (see *Railway Age* of September 13, 1947, page 96). The dismissal order, dated August 27, came after the commission's consideration "of the record . . . and the request that the application involved be withdrawn without prejudice to any future application of a similar nature." The request was made in an August 19 letter which the commission received from J. A. McClain, Jr., general counsel of the Wabash.

Minneapolis, St. Paul & Sault Ste. Marie.—*Annual Report.*—Operating revenues of this road last year were $32,888,486, compared with $28,206,905 in 1946. Operating expenses were $26,888,587, compared with $24,886,012. Fixed charges totaled $4,557, compared with $4,747. Net income was $1,183,000, compared with $154,188. Current assets at the end of the year were

News Department continued on next left-hand page

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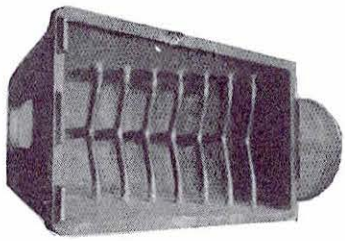
ORIGINALLY developed to support a 100% brick arch in the locomotive firebox, actual road experience has shown that Security Circulators, installed in new or existing motive power, yield important plus advantages.

Adding an effective evaporating surface right in the path of the hot gases, Security Circulators enable the locomotive to get up steam more rapidly. Quickening the circulation of water from the side water-legs to the crown sheet, Security Circulators aid in maintaining maximum boiler output.

Definitely lessening honeycombing, flue plugging and cinder cutting, Security Circulators increase locomotive availability and reduce boiler maintenance.



SECURITY CIRCULATOR DIVISION

AMERICAN ARCH COMPANY INC.

NEW YORK • CHICAGO

$20,354,362, compared with $19,518,795. Current liabilities were $9,880,156, compared with $7,240,206. Long term debt was $21,752,000, compared with $23,989,530.

Nashville, Chattanooga & St. Louis.—*Annual Report.*—Operating revenues of this company in 1947 amounted to $31,875,843, compared with $29,132,791 in the preceding year. Operating expenses were $26,694,053, compared with $28,228,923. Net income was $801,479, compared with $270,427. Current assets at the end of the year totaled $15,384,299, compared with $15,163,545. Current liabilities were $5,792,529, compared with $5,387,705. Long term debt was $19,626,044, compared with $17,088,400.

New Orleans & Northeastern—*Annual Report.*—Operating revenues of this road last year were $11,008,098, compared with $8,817,442 in 1946. Operating expenses totaled $6,301,207, compared with $6,039,415. Fixed charges were $324,644, compared with $324,468. Net income was $1,728,055, compared with $721,035. Current assets at the end of the year amounted to $9,925,453, compared with $7,312,069. Current liabilities were $3,885,283, compared with $2,805,485. Funded debt was unchanged at $7,195,000.

New York, Chicago & St. Louis.—*Annual Report.*—Operating revenues of this company in 1947 totaled $92,520,841, compared with $74,332,966 in the preceding year. Operating expenses amounted to $67,245,584, compared with $58,506,092. Fixed charges were $3,466,523, compared with $3,979,180. Net income was $8,178,012, compared with $5,567,790. Current assets at the end of the year were $28,615,984, compared with $32,283,627. Current liabilities were $22,070,013, compared with $15,300,057. Long term debt was $121,066,659, compared with $113,029,425.

Norfolk Southern.—*Annual Report.*—Operating revenues of this road in 1947 totaled $8,848,073, compared with $7,909,715 in the preceding year. Operating expenses amounted to $7,573,089, compared with $6,915,884. Fixed charges were $249,477, compared with $315,417. Net income was $1,376,016, compared with a net deficit of $55,183.

Pittsburgh & West Virginia. — *Annual Report.* — Operating revenues of this company in 1947 were $6,835,706, an increase of $2,006,216 over the preceding year. Operating expenses amounted to $5,202,771, an increase of $833,413. Fixed charges were $459,301, an increase of $2,252. Net income was $1,118,912, an increase of $1,164,435. Current assets at the end of the year totaled $2,896,067, an increase of $1,048,665. Current liabilities were $1,170,795, an increase of $264,822. Long term debt was $10,469,700, a decrease of $339,300.

Toronto, Hamilton & Buffalo. — *Annual Report.* — Operating revenues of this road last year totaled $4,413,074, compared with $3,860,516 in 1946. Operating expenses were $2,487,330, compared with $2,618,333. Net income was $1,202,207, compared with $604,550. Current assets at the end of the year were $2,801,648, compared with $3,935,832. Current liabilities were $3,463,580, compared with $3,099,565. There was no long term debt, the $1,869,000 of consolidated gold mortgage series A 4½ per cent bonds having been called for redemption February 1, 1947.

Union Pacific.—*Dividends.*—This road has declared dividends of $1 a share and $1.25 a share on, respectively, the 4 per cent preferred stock and the common stock. Both payments will be made on October 1 to stockholders of record on September 7. These payments are the first on either issue since both were split 2-for-1.

Western Maryland.—*Annual Report.*—Operating revenues of this company last year totaled $42,084,542, compared with $32,070,791 in 1946. Operating expenses amounted to $28,948,563, compared with $23,687,015. Fixed charges were $2,824,581, compared with $3,496,419. Net income was $5,431,156, compared with $2,029,156. Current assets at the end of the year were $19,989,111, compared with $17,172,052. Current liabilities were $10,590,021, compared with $8,394,874. Long term debt was $63,976,865, compared with $63,037,865.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Chicago & North Western.—To assume liability for $5,325,000 of equipment trust certificates to finance in part the acquisition of 20 Diesel-electric locomotives and 550 freight cars at an estimated total cost of $6,672,340. The new equipment will include the following:

	Description and Builder	Estimated Unit Cost
5	4,500-hp. Diesel-electric freight locomotives (Electro-Motive Division, General Motors Corporation)	$523,000
7	1,000-hp. Diesel-electric switching locomotives (Fairbanks, Morse & Co.)	102,925
5	1,000-hp. Diesel-electric switching locomotives (Baldwin Locomotive Works	102,835
3	660-hp. Diesel-electric switching locomotives (Baldwin)	80,230
500	70-ton gondola cars (Bethlehem Steel Company)	4,539
50	mill-type gondola cars (Pressed Steel Car Company)	6,250

The certificates would be sold on the basis of competitive bidding, and bids have been invited on the basis of both 10- and 15-year terms for the issue.

Division 4 of the I.C.C. has **authorized:**

Chesapeake & Ohio.—To assume liability for $5,500,000 of equipment trust certificates, the proceeds of which will be applied toward the purchase of equipment estimated to cost $5,519,806, as outlined in *Railway Age* of August 21, page 71. The certificates will be dated September 15 and will mature in 10 annual installments of $550,000, starting September 15, 1949. The report also approves a selling price of 99.4 with a 2⅝ per cent interest rate, the bid of Halsey, Stuart & Co., and associates, on which basis the average annual cost will be approximately 2.74 per cent. The certificates were reoffered to the public at prices yielding from 1.7 per cent to 2.75 per cent, according to maturity.

The commission noted that the present issue is the fourth of the C. & O.'s 1948 equipment trusts in which substantially the entire cost of the equipment has been or is to be financed through the issue of equipment trust certificates. "We are of the opinion," it said, "that the certificates could be sold on a more favorable basis if a substantial part of the purchase price were to be paid in cash. However, in view of the applicant's current unfavorable asset position. . . and other expenditures to be made for capital purposes, including approximately $12,900,000 for the payment of maturing obligations during the remainder of this year and for the first half of 1949, the authority requested will be granted." Financial data set out in the report show that the C. & O.'s current assets as of June 30, were $5,005,001 less than its current liabilities; when the materials-and-supplies item was deducted from the current assets, the excess of current liabilities became $29,618,201. Meanwhile, the commission's report had noted the C. & O. contention that prevailing low interest rates on equipment obligations make it "sound financial practice" to provide the greater part of funds required for the acquisition of equipment in that manner, so that other funds may be applied to the retirement of maturing obligations and to improvements and extensions of its lines.

Pennsylvania.—To assume liability, together with the Montour and Pittsburgh & Lake Erie, for a $1,300,000 unsecured promissory note which the Youngstown & Southern has been authorized to issue as evidence of a loan of a like amount. Proceeds from the sale of the note, which will bear interest at the rate of 2⅜ per cent annually, will be applied toward the retirement of a like amount of 4 per cent and 3½ per cent notes, resulting in interest savings estimated at $168,042. The note has been sold at par to the Mellon National Bank & Trust Co. of Pittsburgh, Pa., the bid of which specified the 2⅜ per cent interest rate. It will be dated September 15, with the principal to be payable in 14 semiannual installments, starting March 15, 1949.

Dividends Declared

Norfolk Southern.—50¢, quarterly, payable September 15 to holders of record September 1.

News Department continued on next left-hand page

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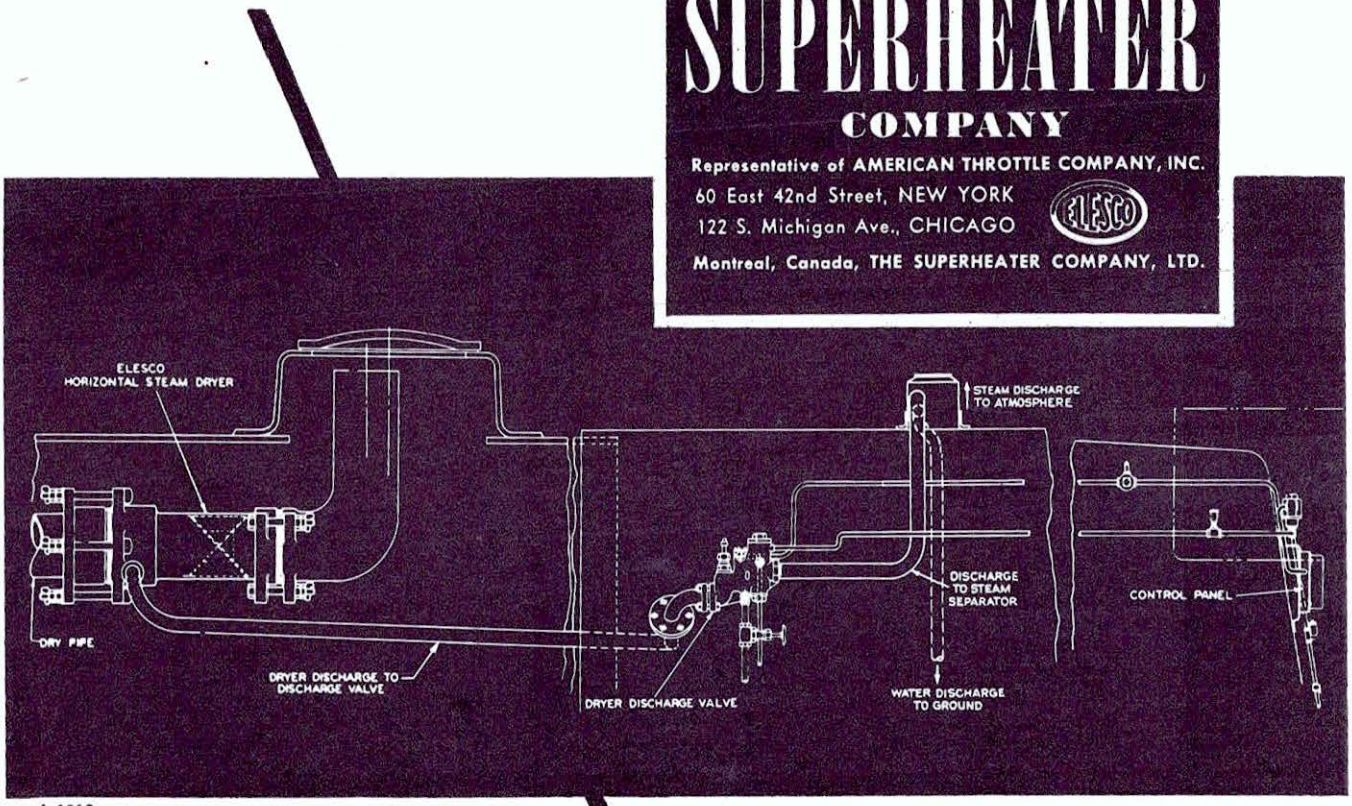

A-1913

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Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • Steam Generators • Oil Separators • American Throttles

Average Prices Stocks and Bonds

	Sept. 7	Last week	Last year
Average price of 20 representative railway stocks	50.78	50.11	47.98
Average price of 20 representative railway bonds	89.68	89.31	88.86

RAILWAY OFFICERS

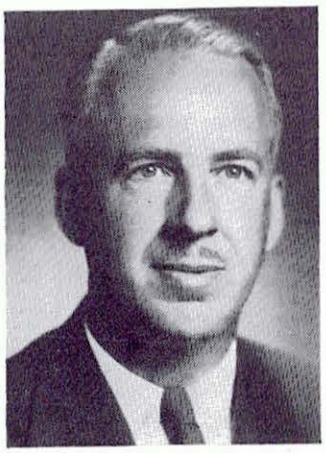
EXECUTIVE

John H. Mooers, whose appointment as vice-president and general counsel of the Railway Express Agency at New York was reported in *Railway Age* of September 4, was born at Plattsburg, N. Y., and was graduated from Cornell University with an LL.B. degree. Mr. Mooers was associated with several legal firms early in his career and became affiliated with the express business in March, 1911, when he joined

John A. Mooers

the law department of Wells Fargo & Co., one of the predecessor companies of the Railway Express Agency. With the exception of his service as captain of infantry in World War I, Mr. Mooers has served the express company in New York continuously since 1911. He became general solicitor at New York on August 1, 1938, which position he held until his recent appointment.

Stanley F. Dingle, chief of transportation of the Canadian National at Montreal, Que., has been appointed assistant vice-president of operation, and **Robert C. Johnston,** director of labor relations at Montreal, has been appointed assistant vice-president of labor relations. Mr. Dingle was born at Sandy Hook, N. J., on November 12, 1901, and attended the Success Business College, Winnipeg, and the University of Manitoba. Entering railroad service on June 29, 1920, as stenographer in the engineering department of the Grand Trunk Pacific (now C.N.R.) at Winnipeg, he served as stenographer and secretary to chief engineer until September 19, 1923. He then served in various clerical capacities in the operating department of the Canadian National until March 1, 1939, when he was appointed assistant superintendent at Dauphin, Man., being promoted to superintendent there in July, 1941, and transferring to Winnipeg in May, 1942. Mr. Dingle was appointed general superintendent of the Alberta district at Edmonton, Alta., in November, 1944, and on April 1, 1946, he became chief of transportation at Montreal.



Stanley F. Dingle

Mr. Johnston was born at Beaverton, Ont., on December 20, 1888, and entered railroad service as assistant agent

Robert C. Johnston

of the Northern division of the Grand Trunk (now C.N.R.). In 1919 he went to Montreal, Que., as district agent in the general superintendent's office, advancing to superintendent of terminals in January, 1926. Mr. Johnston was named general superintendent of the Montreal district at Montreal in February, 1939, and transferred to the Southern Ontario district at Toronto, in July, 1944, which position he held until March, 1946, when he became assistant general manager of the Central region at Toronto, Ont. Mr. Johnston was appointed director of labor relations of the system in January, 1947.

T. A. Thompson, assistant controller of the Denver & Rio Grande Western, with headquarters at Denver, Colo., has been appointed assistant to president at that point, succeeding **Francis A. Peil,** whose death was reported in *Railway Age* of August 28.

FINANCIAL LEGAL and ACCOUNTING

Fred L. Johnson, whose promotion to general claim agent of the Gulf, Mobile & Ohio, with headquarters at Mobile, Ala., was reported in *Railway Age* of August 7, was born in Peoria, Ill., on February 7, 1888. Mr. Johnson began his railroad career in 1909 with the Chicago & Alton (now part of the G.M.&O.) as a clerk in the dispatcher's

Fred L. Johnson

office at Bloomington, Ill. He later held various clerical positions, advancing to chief clerk of the general claim department and personal injury claim agent. He was appointed assistant general claim agent of the G.M.&O. at Chicago on June 1, 1947, which post he held until his recent advancement to general claim agent of the entire system.

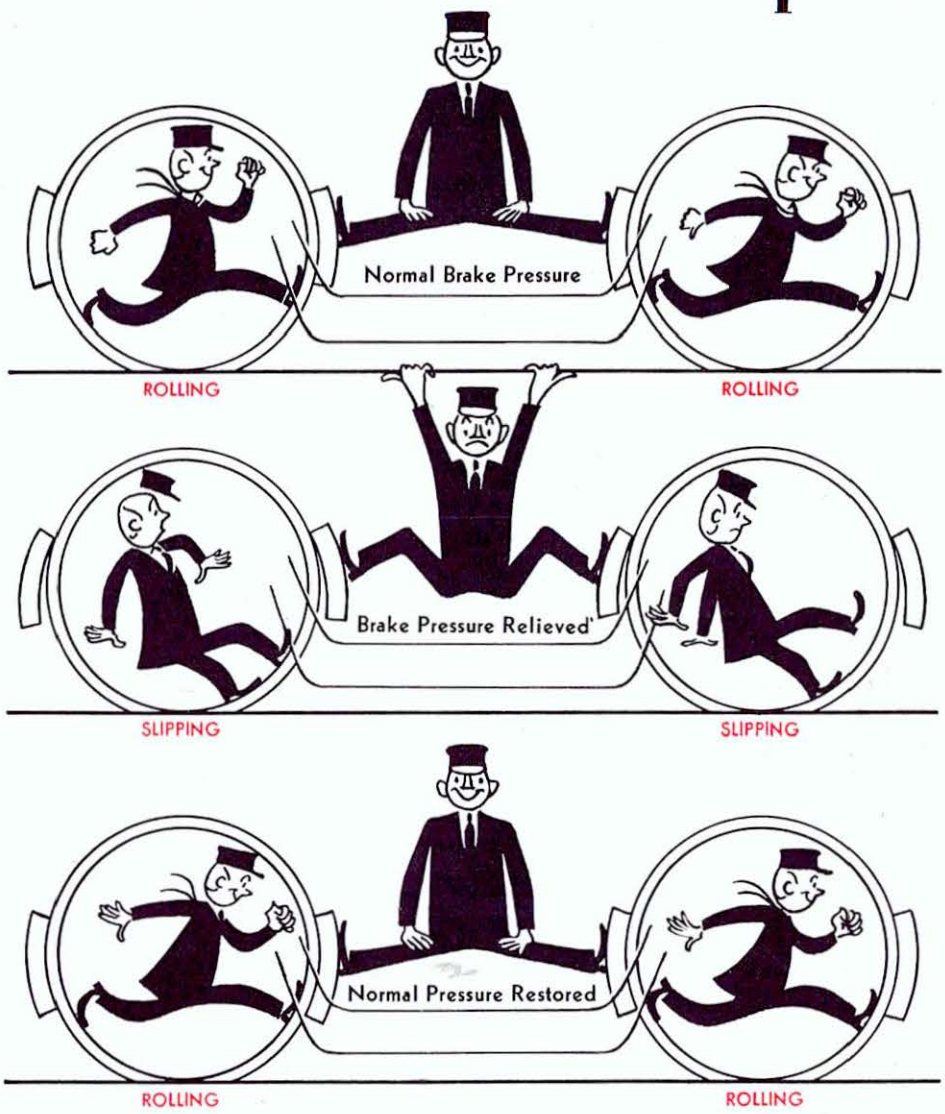
John L. Davidson, Jr., attorney of the Chicago & North Western at Chicago, has been advanced to general attorney at that point.

R. A. Miller, tax commissioner of the Chicago & North Western at Chicago, has been appointed land and tax commissioner, assuming the duties of **H. S. Larimer,** who has retired as land commissioner. **J. H. Hoffman,** assistant land commissioner, has been appointed assistant land and tax commissioner.

C. J. Green, whose retirement as general auditor of the McCloud River at McCloud, Cal., was reported in *Railway Age* of August 21, was born on August 15, 1891, at Byron, Mich. Mr. Green entered railroad service in 1908

News Department continued on next left-hand page

"AP" Decelostat for Wheel Slip Detection



Westinghouse AP Mechanical-Pneumatic DECELOSTAT

As every railroad man knows—the aim in braking is to maintain *maximum* retardation under *all* rail conditions. That's where the Westinghouse AP Mechanical-Pneumatic Decelostat comes in.

At the first hint of wheel slip, this device momentarily relieves braking pressure, permitting wheels to regain train speed. Braking pressure is restored immediately to train level.

The Westinghouse AP Decelostat is of simple, positive mechanical-pneumatic design. All equipment is on the truck. No additional connections are required to car body, thus providing free interchange of trucks with complete wheel slip protection regardless of truck assignment.

Bulletin DL2461-1 gives the whole story. Ask for a copy.

Brakes are Basic to Railroad Progress

Westinghouse Air Brake Co.

WILMERDING, PA

in the accounting department of the Southern Kansas of Texas (now Panhandle & Santa Fe), at Amarillo, Tex. He left that road in 1918 for a clerical position with the auditor of freight accounts of the Southern Pacific, at San Francisco, Cal., and in 1920 he joined the McCloud River as chief clerk to auditor. He later advanced to general auditor, which post he held at the time of his retirement.

Parks C. Archer, whose retirement as general claim agent of the Gulf, Mobile & Ohio at Mobile, Ala., was reported in *Railway Age* of August 7, was born on May 2, 1877, near Warrenton, Mo. Mr. Archer entered railroad service in 1905 as chief clerk to the district claim agent of the Illinois Central at Memphis, Tenn., and was advanced to claim agent at that point shortly thereafter. He joined the Chicago & Alton (now part of the G.M.& O.) in 1909 as claim agent at Mexico, Mo., and later in the same year was transferred to Chicago. Mr. Archer became chief clerk to the general claim agent in 1911 and assistant general claim agent in 1917. He was appointed general claim agent of the Alton in 1921, retaining that title when it was merged with the G.M.&O. in 1947. His office was subsequently transferred from Chicago to Mobile.

H. B. Krengel has been appointed attorney for the Northern Pacific at St. Paul, Minn., succeeding the late **F. G. Gehan,** general attorney.

Fred W. Stoll, general chief clerk of the Louisville & Nashville at Louisville, Ky., has been promoted to auditor of freight accounts, succeeding **B. Frank Russell,** who has retired after 44 years of railroad service. **W. H. Lloyd,** traveling auditor in charge of large freight stations, has been appointed auditor of station accounts at Louisville, succeeding **James B. Shacklette,** who has retired, due to ill health, after 45 years of service with the L. & N.

TRAFFIC

A. W. Behrens, general agent of the New York Central, with headquarters at Minneapolis, Minn. has been appointed to the newly-created position of general coal freight agent at Detroit, Mich. **G. E. Wheeler** has been appointed coal freight agent at Detroit, succeeding **G. R. Peterson,** who has been transferred to the foreign freight department.

Clifford K. Ferguson, commercial agent of the Minneapolis & St. Louis at Peoria, Ill., has been promoted to general agent at Indianapolis, Ind., succeeding the late **A. M. McIntyre.**

Richard J. Ward, division freight and passenger agent of the Atchison, Topeka & Santa Fe, with headquarters at El Paso, Tex. has been appointed eastern freight traffic manager at New York. He succeeds **R. S. Hirsch,** who has been appointed freight traffic manager at Los Angeles, Cal.

Paul C. Swann has been appointed general agent of the Nashville, Chattanooga & St. Louis, with headquarters at Louisville, Ky., succeeding the late **L. L. Davis.**

F. E. Bailer has been appointed general agent of the Chicago Great Western, with headquarters at Portland, Ore., succeeding **W. W. Jones,** who has retired after a railroad career of 41 years.

Elmer E. Gordon, whose promotion to passenger traffic manager of the Chicago & Eastern Illinois at Chicago was reported in *Railway Age* of August 28, was born on October 16, 1900, at Gilman, Ill. Mr. Gordon first entered railway service in 1918 with the Illinois Central as station helper, later serving as a ticket seller. He joined the C.& E.I. as traveling passenger agent in 1925 and in 1929 became northern passenger agent for the Seaboard Air Line at Chicago. During 1930 and 1931, he served as passenger

Elmer E. Gordon

traffic manager for the Cincinnati & Lake Erie electric line at Cincinnati, Ohio, and Toledo. In 1933 he returned to Chicago as assistant manager of the American Express Travel department and in the following year he rejoined the C.& E.I. as passenger traffic agent. He next served successively as general agent, passenger department, St. Louis, Mo., as district passenger agent in West Palm Beach, Fla., and Jacksonville and as general passenger agent at Chicago. Mr. Gordon had held the latter position since January 1 1945.

The New York Central System has announced the following personnel changes in its traffic department at Chicago: **Leroy Blue,** general freight agent, advanced to assistant freight traffic manager; **H. L. Willard,** general coal freight agent, promoted to assistant freight traffic manager; **A. W. Morgan,** general freight agent of the Indiana Harbor Belt, the Chicago Junction and the Chicago River & Indiana, appointed to succeed Mr. Willard; **L. C. Howe,** division freight agent, appointed to replace Mr. Morgan with the aforementioned roads; and **M. L. Seger,** chief clerk to assistant vice-president, promoted to division freight agent at Chicago, succeeding Mr. Howe.

A. R. Bruce, western traffic manager of the Chicago & Eastern Illinois, with headquarters at San Francisco, Cal., has been appointed general freight agent at St. Louis, Mo., succeeding **Henry J. Dentzman,** whose appointment as director of forestry and agricultural development was reported in *Railway Age* of September 4. Mr. Bruce is replaced at San Francisco by **M. C. Wright.**

OPERATING

Jacob G. Sammons, chief dispatcher of the Seaboard Air Line at Atlanta, Ga., has been promoted to trainmaster at Tampa, Fla.

T. E. Griswold, whose appointment as division superintendent of the Texas & Pacific's Eastern division at Fort Worth, Tex., was reported in *Railway Age* of August 7, was born on December 2, 1887, at East Point, Ky. He entered T. & P. service as a brakeman in 1912, being advanced later to successive

T. E. Griswold

positions as conductor, assistant yardmaster, night general yardmaster and assistant trainmaster. In 1930, when the latter position was abolished, Mr. Griswold returned to his former position as night general yardmaster. He also served during 1930 as general yardmaster at Mineola, Tex., and Marshall, and in the following year was promoted to terminal trainmaster at Texarkana, Ark. In 1939 he became trainmaster with jurisdiction over the line between T. & P. Junction and Mineola, and in 1940 he went to Marshall as assistant superintendent. Mr. Griswold was transferred to Fort Worth in 1942,

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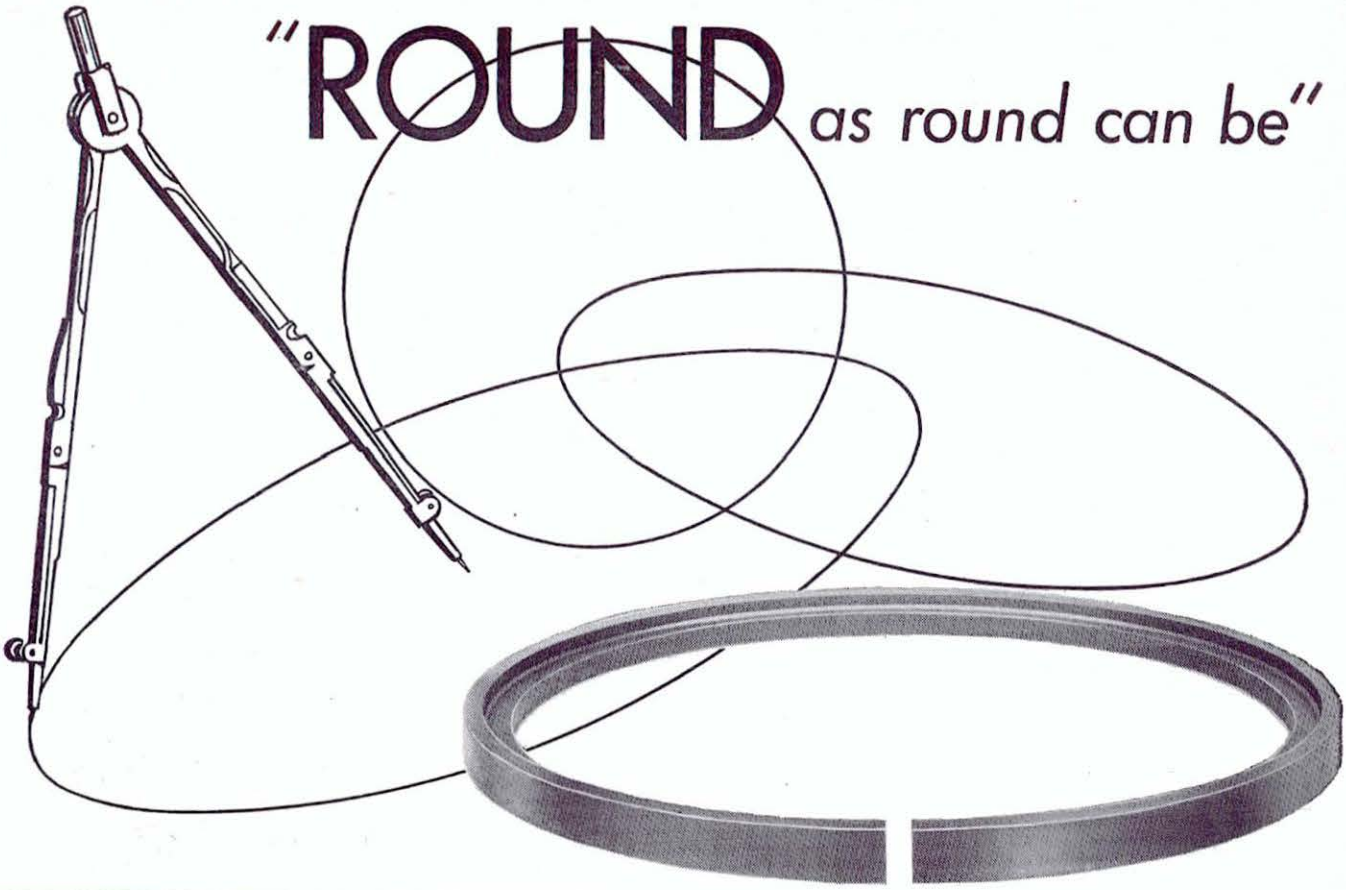
"ROUND as round can be"



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Tension-Cast
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Until now, valve snap rings were like oval pegs in round holes because they became slightly flattened with the closing of the gaps. Both bushings and rings wore unevenly; perfect fit was impossible. But Hunt-Spiller has corrected this condition by making HSGI *Tension-Cast* Valve Snap Rings slightly out of round. When the gaps are closed they become true circles, conforming to the bushing wall and exerting consistent pressure at every point. Moreover, HSGI *Tension-Cast* Valve Snap Rings wear longer because they are uniformly hard on all sides. Cast individually instead of in tubs, every surface touches the mold and so gets rapid cooling which makes for improved hardness and texture.

HSGI *Tension-Cast* Valve Snap Rings are furnished completely finished, ready for installation. We have them in the sizes you want. Write for full particulars. Hunt-Spiller Mfg. Corporation, 383 Dorchester Ave., Boston 27, Mass. In Canada: Jos. Robb & Co., Ltd., 4050 Namur St., Montreal 16, P.Q. Export Agents: International Ry. Supply Co., 30 Church St., New York 7, N. Y.

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DUPLEX SECTIONAL PACKING
AIR FURNACE GUN IRON

where he was located at the time of his recent appointment.

William T. Long, Jr., whose appointment as general superintendent of transportation of the Texas & Pacific, with headquarters at Dallas, Tex., was reported in *Railway Age* of August 7, is a native of DeSoto, Mo. He first entered railroad service with the Missouri Pacific in his home town in 1905, serving in various clerical capacities in the mechanical department. Mr. Long subsequently held positions as accountant in the operating department, traveling timekeeper in the maintenance of way department and division accountant at Illmo, Mo. In 1913 he was appointed

William T. Long, Jr.

chief clerk to the superintendent at Poplar Bluff, Mo., and in 1917 he entered the employ of the St. Louis Southwestern in a similar position at Pine Bluff, Ark., He joined the T.&P. at Dallas, Tex., in 1918 as chief clerk to general manager, and was appointed trainmaster in 1920. Mr. Long was next promoted in 1929 to superintendent of transportation, serving in that capacity until his recent advancement. For a brief time during World War II Mr. Long served with the Office of Defense Transportation as Southwestern representative, Rail Transport Division, with headquarters at Dallas.

H. H. DeBerry, division superintendent of the St. Louis-San Francisco at Memphis, Tenn., has been transferred to Chaffee, Mo., succeeding **X. R. Campbell,** who, in turn, goes to Memphis, replacing Mr. DeBerry.

Willard G. Bowen, whose retirement as division superintendent of the Chicago, Milwaukee, St. Paul & Pacific at Savanna, Ill., was reported in *Railway Age* of August 21, was born on July 18, 1884, at Tomah, Wis. Mr. Bowen first entered service with the Milwaukee in 1899 as a telegraph operator on the La Crosse division, later advancing successively to train dispatcher, chief dispatcher and trainmaster. He was appointed assistant superintendent of the Terre Haute division in 1928, and of the Dubuque & Illinois division in 1931. He was further promoted to superintendent at Ottumwa, Iowa, in 1936, and was transferred to Marion, Iowa, in 1938. Mr. Bowen had been located at Savanna, Ill., since May 15, 1942.

Irving L. Fardal, whose promotion to division superintendent of the Minneapolis, St. Paul & Sault Ste. Marie at Enderlin, N. D., was reported in *Railway Age* of August 28, was born at Adams, Minn., on January 28, 1908. He first entered service with the Soo Line in 1924 as a clerk in the superintendent's office at Minneapolis, Minn., and subsequently served as payroll clerk, assistant division accountant and division accountant, all at Gladstone, Mich. Mr. Fardal returned to Minneapolis in 1928 as maintenance of way clerk in the general superintendent's office, and in 1936 was advanced to chief clerk. He became assistant trainmaster at Gladstone in 1941, trainmaster at Enderlin in 1944 and assistant superintendent at Minneapolis in 1946. Mr. Fardal was serving in the latter position at the time of his recent promotion.

Paul H. Fox, general superintendent of the Atlantic region of the Canadian National at Moncton, N. B., has been appointed chief of transportation, with headquarters at Montreal, Que., succeeding **Stanley F. Dingle,** who has been appointed assistant vice-president of operation. Mr. Fox, who has been connected with the operating department of the C. N. R. and predecessor companies since January, 1907, entered railroad service as agent-operator and

Paul H. Fox

thereafter served successively as dispatcher, chief dispatcher and assistant superintendent. In January, 1938, he was appointed superintendent of the Allendale (Ont.) division and in December, 1942, was transferred to the Ottawa (Ont.) division. In July, 1944, Mr. Fox was appointed general superintendent of transportation, Atlantic region, at Moncton, and in September, 1946, he became general superintendent of the Atlantic region at Moncton.

P. H. Jones, agent of the Belt Railway of Chicago, at Clearing Station, Ill., has been appointed assistant superintendent at that point.

George R. French, whose promotion to superintendent of the Texas & Pacific's newly created Louisiana division, with headquarters at Alexandria, La., was reported in *Railway Age* of August 7, was born on August 16, 1904, at Davenport, Okla. He entered railroad service with the T. & P. in 1928 as dispatcher, later serving as train dispatch-

George R. French

er, night chief dispatcher and chief dispatcher. Mr. French was appointed trainmaster at Big Spring, Tex., in 1939, and in the following year was advanced to assistant superintendent of the Western division covering the territory between Big Spring and El Paso. He was located at Big Spring at the time of his recent advancement.

MECHANICAL

B. N. Lewis, II, general mechanical superintendent of the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., has retired after nearly 50 years of railroad service. Mr. Lewis was born on August 22, 1883, at Austin, Minn., and entered railroad service in 1901 as a machinist and draftsman apprentice with the Soo Line at Minneapolis. He left the Soo Line in 1903 and joined the Erie at Meadville, Pa. as special apprentice, and in 1906 he was employed by the American Steel Foundries as shop inspector. He rejoined the Erie in 1908 as gang foreman at Hornell, N. Y., and remained with that road until the following year, when he rejoined the Soo Line at Enderlin as roundhouse foreman. From 1911 to 1915, Mr. Lewis did special shop work at Minneapolis, being appointed in the latter year to the post of mechanical valuation engineer. In 1917 he was further advanced to assistant mechanical superintendent at Fond du Lac, Wis., and to mechanical superintendent at that point in 1924. He was transferred to Minneapolis in 1928, and was promoted there in 1944

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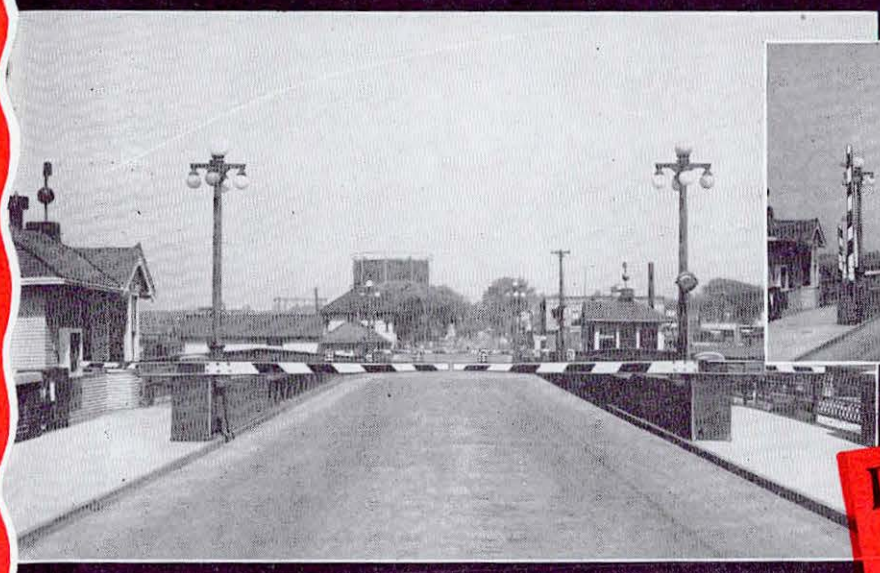
A SURE CURE FOR TRAFFIC ACCIDENTS



Rx MODEL N-N ELECTRIC GATES

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— Fast, reliable operation is the big reason for the growing number of Model N-N electric gate installations at bridge approaches and railroad-highway crossings. These gates are usually controlled by manual or magnetic reversing switches and can be furnished for operation on any standard direct or alternating current: 110, 220, 440, or 550 volts; single or 3-phase, 60 or 25 cycles.

— Four models are available, differing chiefly in gear ratio, which can be furnished for operating time of 7, 9, 11, and 13 seconds, to suit the length of wood arm being used.

— Heavy duty motors are rated for continuous service, all types being capable of instant reversing action.

— Limit switch—cam operated—provides quick make and break of all circuits, with self-cleaning contacts for gate travel limits, gate indication, interlock, warning bell, and gate arm lamp circuits as may be required.

— Furnished with roadway arms only, or with both roadway and sidewalk arms. 75° or 90° angle of travel. Steady burning or flashing lights. Also folding metal fences.

— Twelve-inch traffic bells—motor or magnetically operated—can be furnished for mounting on the cover of the gate mechanism.

PROMPT DELIVERY

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Model N-N gates are manufactured by the maker of the famous "Model 10" automatic railroad-highway grade crossing signals; also electric pier and channel navigation lamps for both movable and fixed bridges. Descriptive bulletins available.

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to general mechanical superintendent, the post he held at the time of his retirement.

PURCHASES and STORES

Francis P. Williams has been appointed division storekeeper of the Erie at Hornell, N. Y., succeeding **H. A. Caldwell**, retired.

ENGINEERING and SIGNALING

Cecil F. Anderson, draftsman in the Louisville (Ky.) office of the Louisville & Nashville, has been appointed assistant engineer on the road's Birmingham division, with headquarters at Birmingham, Ala. He succeeds **A. E. Hotard,** who has been transferred to Louisville as assistant engineer in the bridge department. **Marow W. Cox,** assistant engineer at Louisville, has been appointed resident engineer at DeCoursey, Ky., to supervise yard improvements at that point.

A. L. Becker, architect of the Missouri Pacific Lines at St. Louis, Mo., has been appointed engineer of structures at that point, without change in duties. The position of architect has been abolished. **J. H. Shieber** has been appointed assistant engineer of structures at St. Louis, the post of assistant architect being abolished.

Belsur Bristow, whose appointment as engineer maintenance of way of the Chicago, Rock Island & Pacific, at Chicago, was reported in *Railway Age* of August 28, was born at Frankford, Ind., on May 22, 1900. He was graduated by Oklahoma University with a civil engineering degree, and entered the service of the Rock Island in 1922. Mr. Bristow subsequently held positions as chainman, rodman, masonry inspector, instrumentman, assistant engineer, track supervisor and roadmaster. He was appointed roadmaster at Fort Worth, Tex., in 1941, and went to Houston, Tex., in the following year as engineer and roadmaster. In 1946 he was appointed division engineer at Houston, where he was located at the time of his recent advancement.

M. A. Hanson has been appointed engineer of research of the Gulf, Mobile & Ohio, with headquarters at Bloomington, Ill.

L. V. Johnson, maintenance engineer of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., has been appointed district engineer, Stevens Point division, with headquarters remaining at Minneapolis. He succeeds the late **Ward J. Cable,** whose death was reported in *Railway Age* of August 14. Mr. Johnson is replaced by **A. D. Alderson. J. P. Gannon** has been appointed division engineer, Stevens Point division, with headquarters at Stevens Point, Wis.

W. J. Savage, whose appointment as assistant chief engineer of the Texas & Pacific at Dallas, Tex., was reported in *Railway Age* of August 7, was born on July 15, 1908, at Warren, Ark. He graduated from Rice Institute, Houston, Tex., in 1928 with a degree in civil enginering, and shortly thereafter entered the bridge department of the Missouri-Kansas-Texas at St. Louis, Mo., as a draftsman. In the following year Mr. Savage joined the Missouri Pacific as bridge inspector, and in 1932 was transferred to the system bridge gang. He worked successively as carpenter helper, apprentice ironworker, junior ironworker, assistant bridge foreman of system gang and foreman of system bridge gang. He was transferred in 1937 to the office of bridge engineer at St. Louis as draftsman and designer,

W. J. Savage

and in 1939 he joined the Public Works Administration as engineer special agent in the division of investigation, Omaha, Neb. Mr. Savage rejoined the M. P. as bridge inspector in 1940, and, until he entered the army in May, 1942, worked as assistant to supervisor of system bridge gangs. Following military service in the Corps of Engineers, during which time he was advanced to lieutenant colonel, he returned to the M. P. in 1945 as assistant engineer in the office of chief engineer at St. Louis. He was subsequently placed in charge of grade and line revision work in connection with flood protection along the Mississippi river in Illinois, which duties he was performing at the time he joined the T. & P.

OBITUARY

Lionel B. Wood, who retired in September, 1947, as general storekeeper of the Southern Pacific Lines in Texas and Louisiana, died recently at Houston, Tex.

Frank Cothran, president of the Piedmont & Northern and the Durham & Southern, with headquarters at Charlotte, N. C., died on September 1 in Charlotte hospital, at the age of 70. Mr. Cothran was born at Millway, S. C., on August 28, 1878, and entered railroad service in 1899 as rodman with the Southern. He became prominent in American and Canadian engineering circles for his part in mining operations, railroad construction and hydro-electric power development in the two countries. Mr. Cothran's early engineering projects included mining operations at Toms Creek, Va., construction work with the Carolina, Clinchfield & Ohio and other projects in West Virginia. He was named president of the Piedmont & Northern in 1937—26 years after he had supervised the location of the P. & N. route in the Carolinas. Completing his first assignment with the P. & N. in 1914, Mr. Cothran went to Canada to direct field surveys for the Quebec Development Company. After other engineering assignments in North Carolina, Mr. Cothran returned to Canada in 1923 to become vice-president and general manager of the Alma & Jonquiere, the Duke-Price Power Company and the Quebec Development Company (building and operating a short-line railway and hydro-electric development on the Saguenay river). During 1927 and 1928 he was chief engineer of the Piedmont & Northern, returning to Canada again in 1929 on hydro-electric projects for the Beauharnois Construction Company. From 1933 to 1937 Mr. Cothran was a consulting engineer at Charlotte, N. C., then taking over the presidency of the Piedmont & Northern.

A. M. McIntyre, general agent of the Minneapolis & St. Louis at Minneapolis, Minn., died recently.

Francis A. Peil, assistant to president of the Denver & Rio Grande Western at Denver, Colo., whose death was reported in *Railway Age* of August 28, was born in Racine, Wis., on September 6, 1873. He entered railroad service with the Northern Pacific in 1900, serving successively as general clerk, stenographer and car tracer. For a time during 1902, Mr. Peil was a stenographer with the Eastern Minnesota in the president's office at St. Paul, Minn., and in 1903 he joined the Great Northern at that point as chief clerk in the executive department. Mr. Peil entered the service of the Spokane, Portland & Seattle at Portland, Ore., in 1907, and served successively as secretary to president and assistant secretary in the executive department. He joined the Oregon-Washington Railroad & Navigation (part of the Union Pacific) as assistant to president in 1914, and served as assistant to general manager at Seattle, Wash., from 1916 to 1918. Mr. Peil's connection with the Rio Grande began in August, 1921, as a car tracer. He became assistant secretary in the executive department in 1922, and in the following year was appointed assistant to receiver. Until his recent death, he served successively as assistant to president, assistant to trustees and assistant to president.

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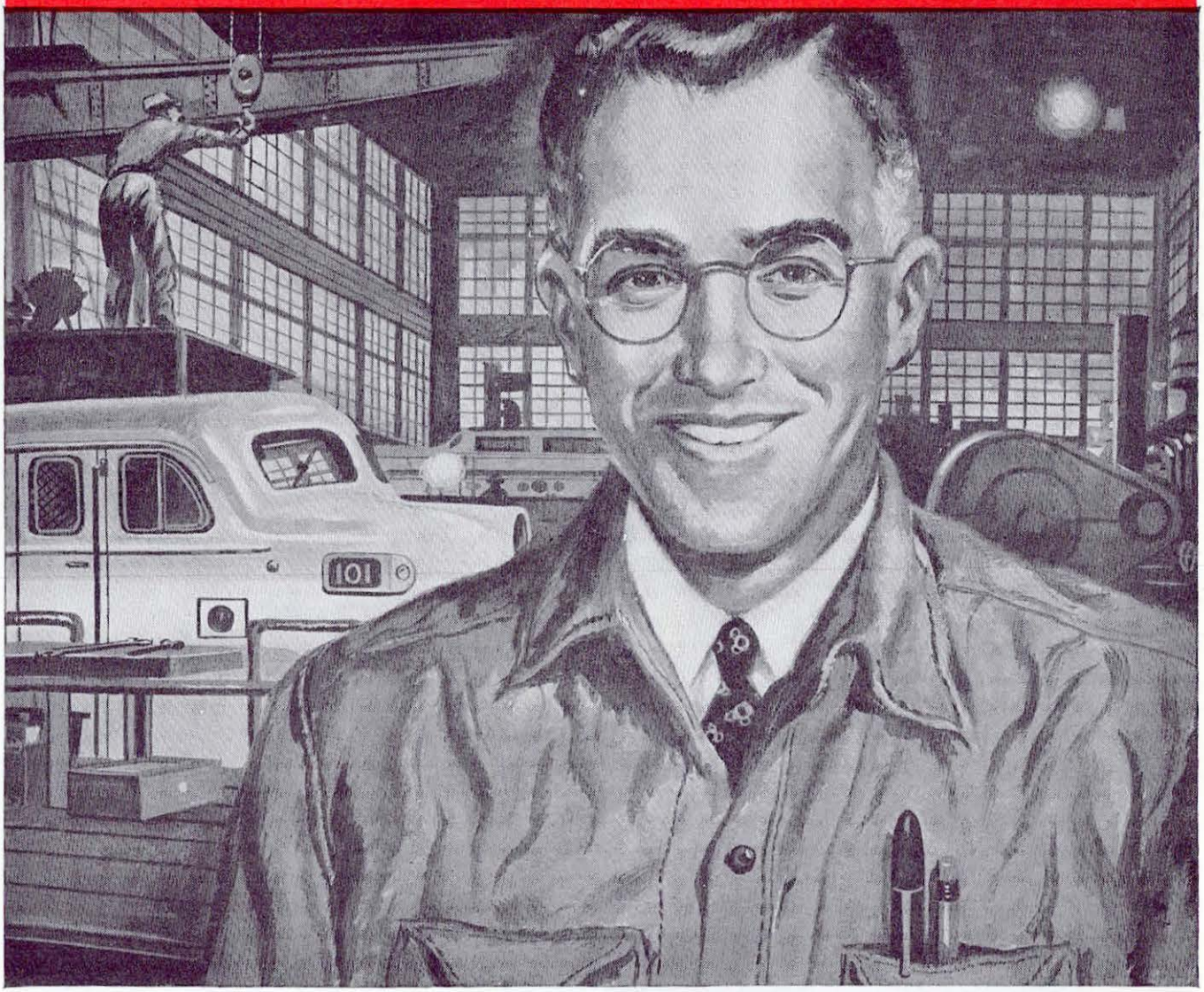
The Sign of QUALITY Esso The Symbol of SERVICE



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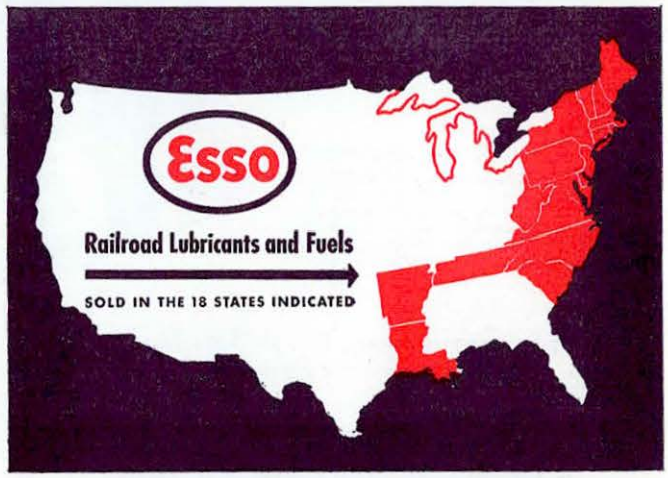
We call him a sales engineer because he's that much of an expert. You can depend on his diagnosis and prescription for any railroad lubricating problem... It's sound, helpful advice from a man with well-founded experience.

This type of service is an important *extra* you enjoy with Esso... the sign of quality—the symbol of service.



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Overcome the handicap of obsolete handling methods—let Towmotor Mass Handling help you increase productive output in your plant. Versatile, gasoline-powered Towmotor Fork Lift Trucks and Towmotor Accessories provide all the benefits of modern handling techniques for every plant, large or small . . . handling raw materials and finished products of every size, shape and type . . . 24 hours a day. Turn to Towmotor for the solution to your handling problem. Follow the lead of the men who have to make handling pay a profit. More *professional handlers* use Towmotor than any other fork lift truck.

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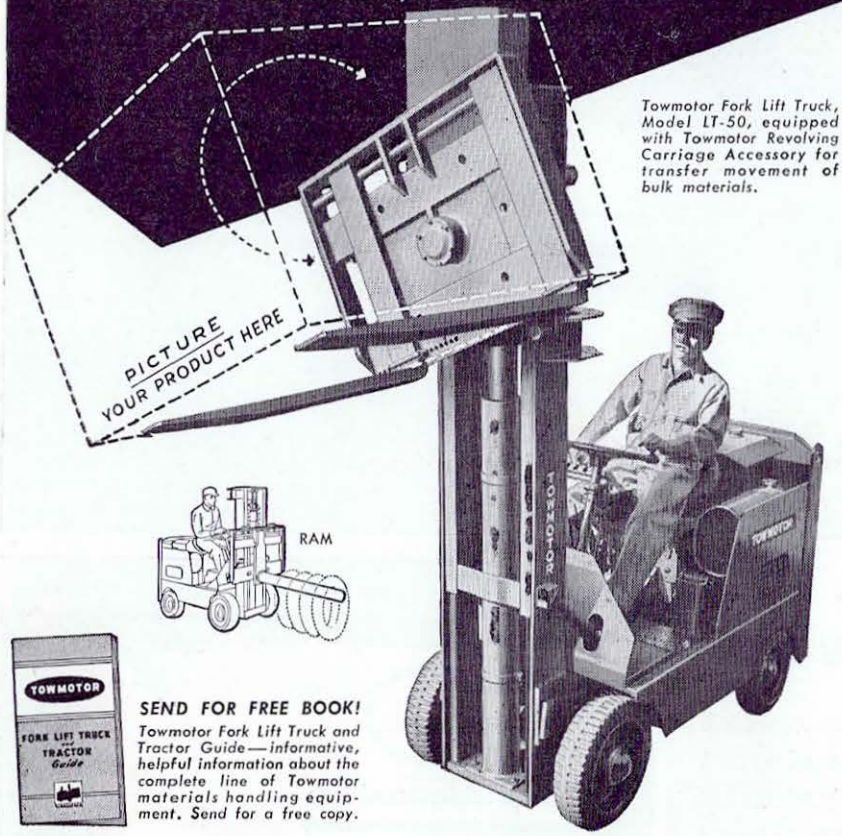

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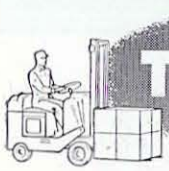

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Current Publications

BOOKS

Proceedings of the Session of the Association of American Railroads, Mechanical Division, held at Atlantic City, N. J., June 23-27, 1947, 720 pages, drawings, diagrams. Published by the Association of American Railroads, 59 E. Van Buren st., Chicago 5. Price $9.

The addresses, committee reports and discussion of reports presented at the 1947 meeting are contained herein; also recommendations, letter ballots and other transactions for the year 1947.

PAMPHLETS

"Your Product in Wirebounds," reissued by the Wirebound Box Manufacturers Association, 105 S. La Salle st., Chicago 3. Free upon request.

Originally published in 1945, this booklet, designed for those concerned with packing industrial products for shipment, is profusely illustrated to demonstrate the use of wirebound shipping boxes and crates for industrial products.

The New Ross & White Coaling and Sanding Plant. Bulletin No. 66; 8 pages, illustrated. Published by Ross & White Co., Chicago Daily News Building, Chicago 6.

This pamphlet describes and illustrates a plant for coaling and sanding steam locomotives, and sanding Diesel locomotives, built at Baltimore, Md. It also contains a diagram of a Diesel sand tower for sanding Diesel road engines and switchers.

One Metal Roof for the Life of Your Building. 24 pages, illustrated. Published by the International Nickel Company, 67 Wall street, New York 5.

Printed in two colors, this booklet describes the new, soft-temper Monel roofing sheet, and discusses the causes and prevention of roof failures. It contains numerous photographs of buildings with Monel roofs, and shows how that material can be adapted to current architectural and roofing designs and practices.

Railways of Java and Sumatra, by Albert C. Cizauskas. 3 pages. Issued by the Office of International Trade, United States Department of Commerce. Available from the Government Printing Office, Washington 25, D. C. Price, five cents.

Reviews current railroad conditions in Java and Sumatra, including condition and extent of lines, traffic volume, rolling stock, revenues and expenditures, and rates.

Joint Equipment Committee [Report on] Costs of Railroad Equipment and Machinery, July 1, 1948. 21 pages. Published

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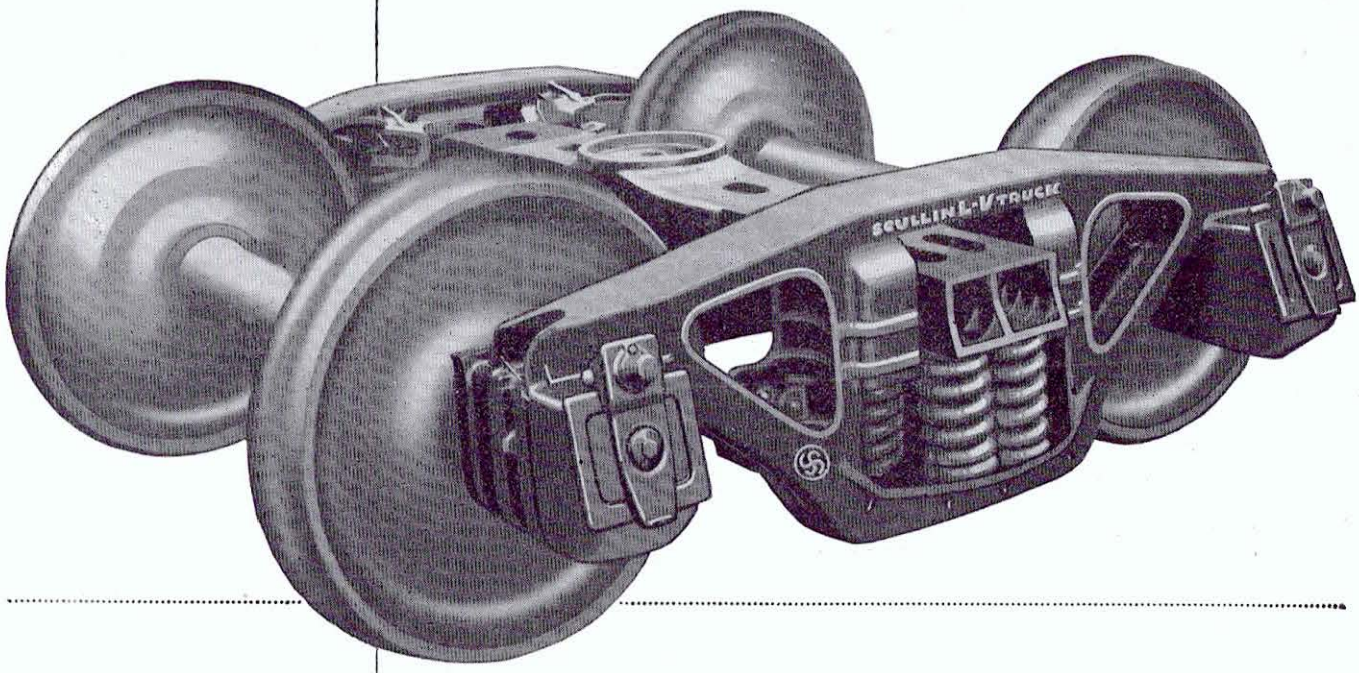

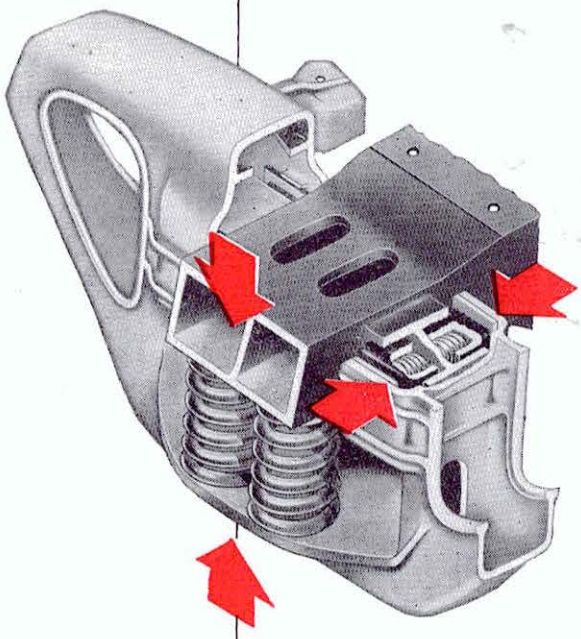

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National Directory of Safety Films. Prepared by the National Safety Council, 20 North Wacker drive, Chicago 6, Ill., in cooperation with Business Screen magazine. Price, 25 cents.

This is a comprehensive listing of 403 motion pictures and slide films, both sound and silent, for safety education within business and industry and other fields. The films are classified and indexed with synopsis, type, source and availability for purchase, rental or loan.

Transit Fact Book, Sixth Edition 1948. 46 pages. Prepared by the American Transit Association, 292 Madison ave., New York 17.

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Method of Restoring Out-of-Round (Flat) Rolls of Newsprint. 4 pages. Issued by the Freight Loading and Container Section, Association of American Railroads, 59 E. Van Buren st., Chicago 5. Free.

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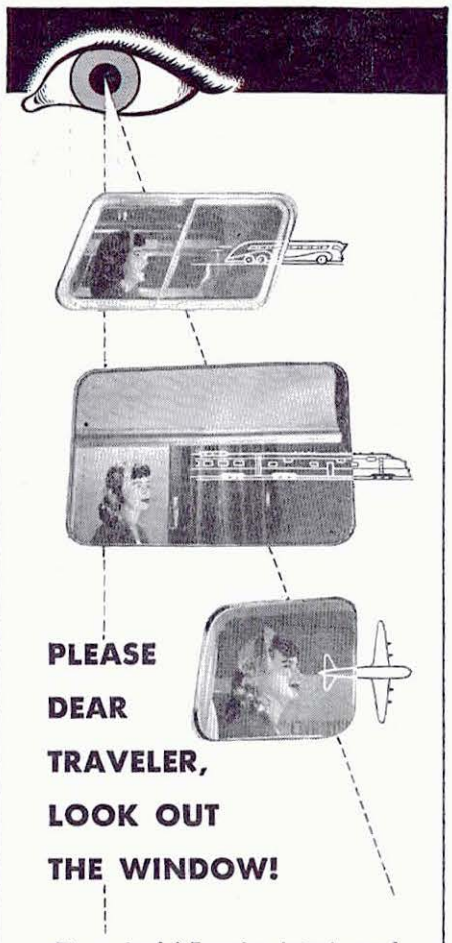

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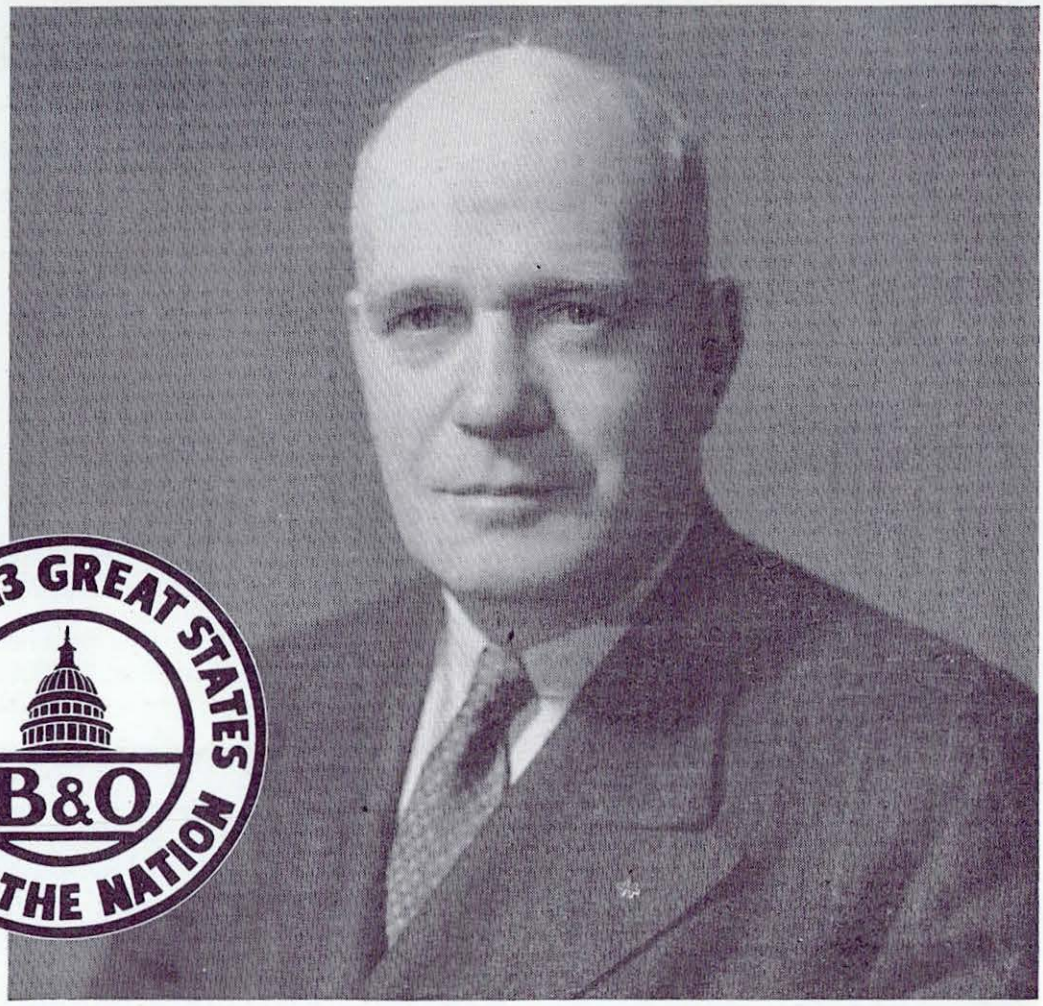

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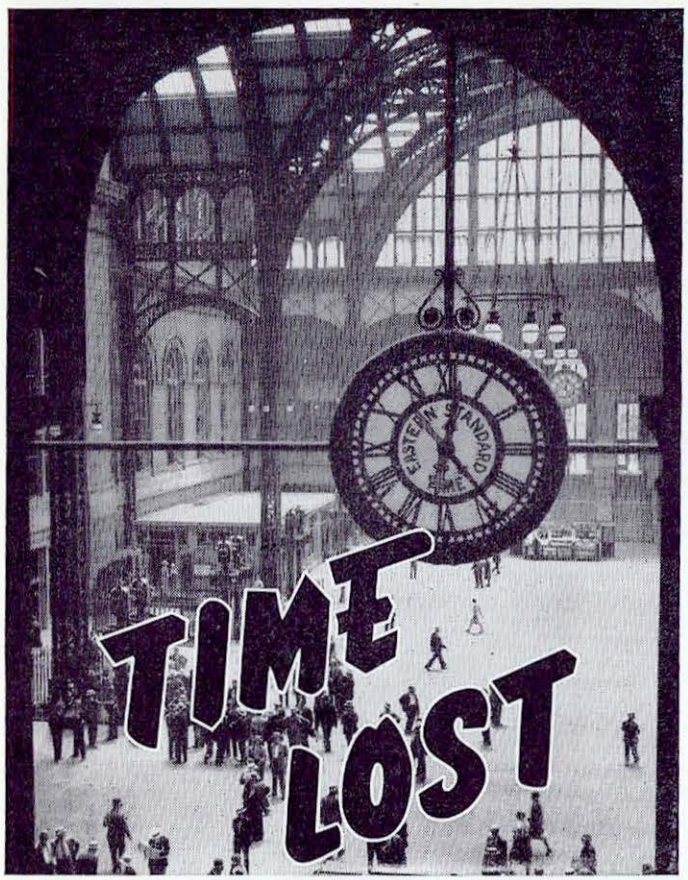

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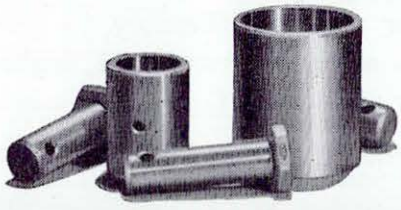

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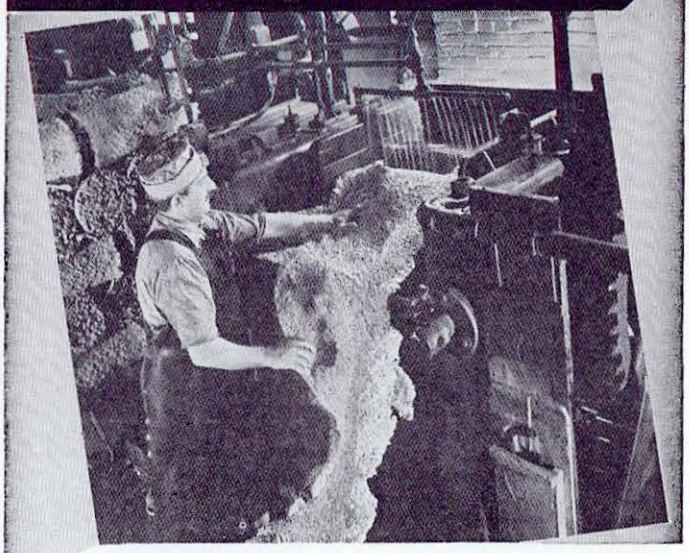

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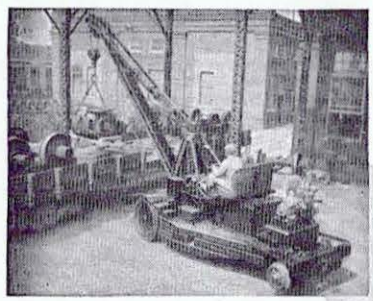

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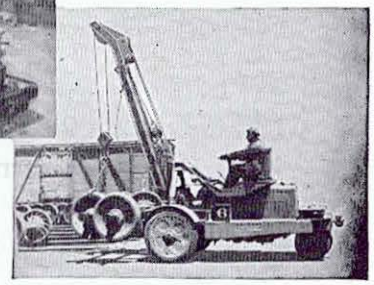

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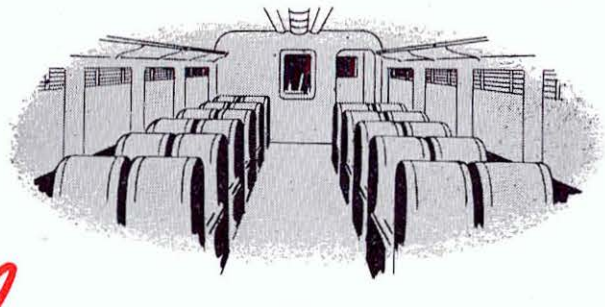

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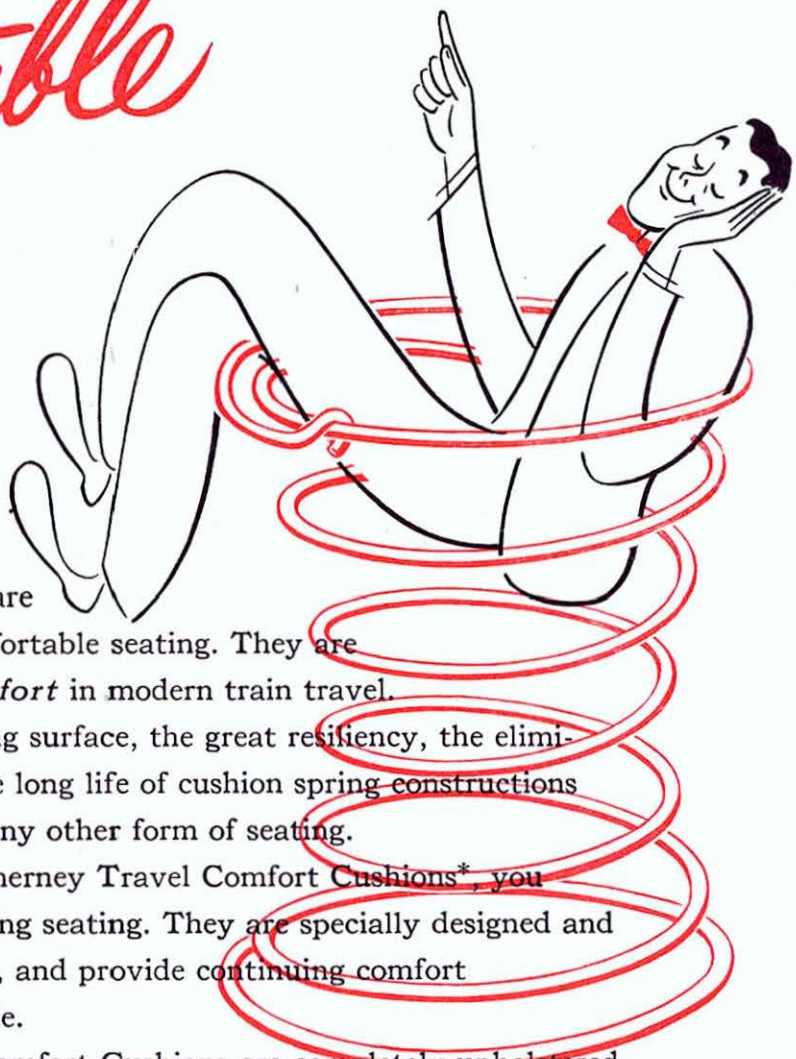

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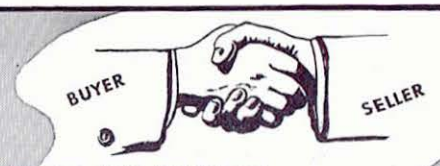

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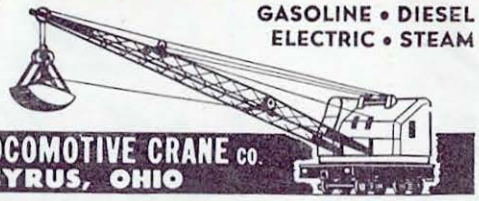

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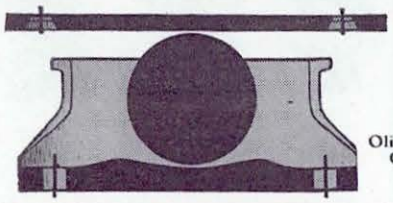

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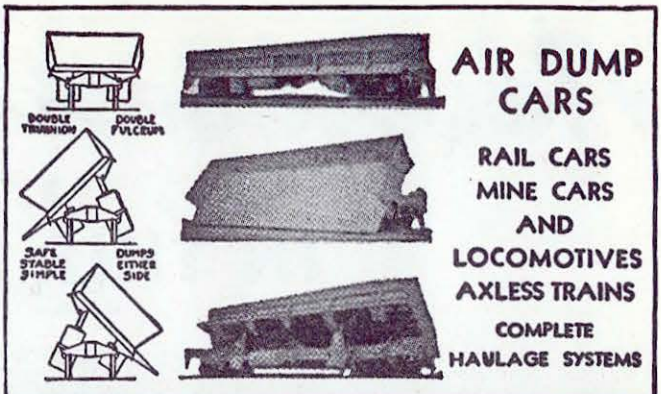

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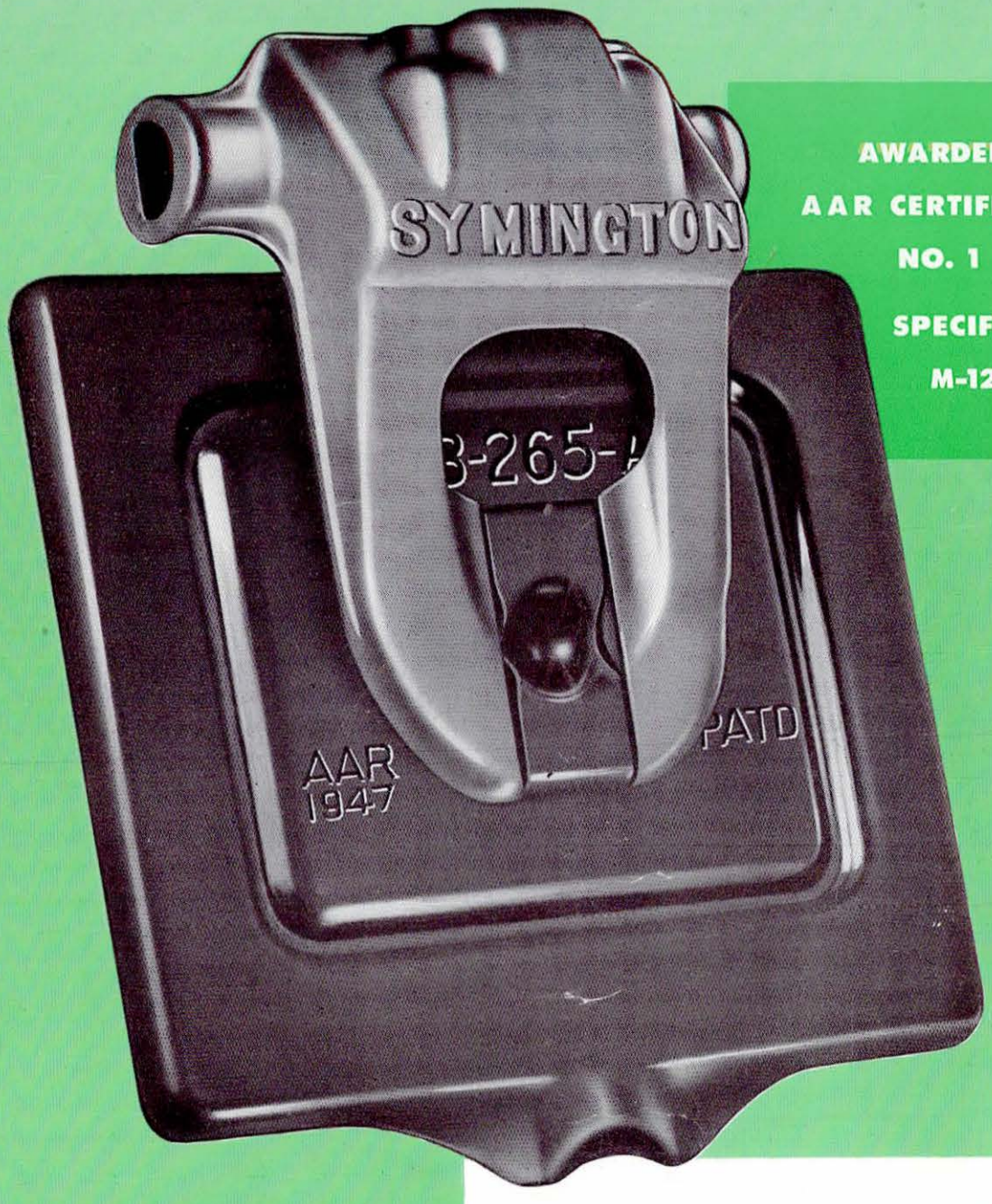

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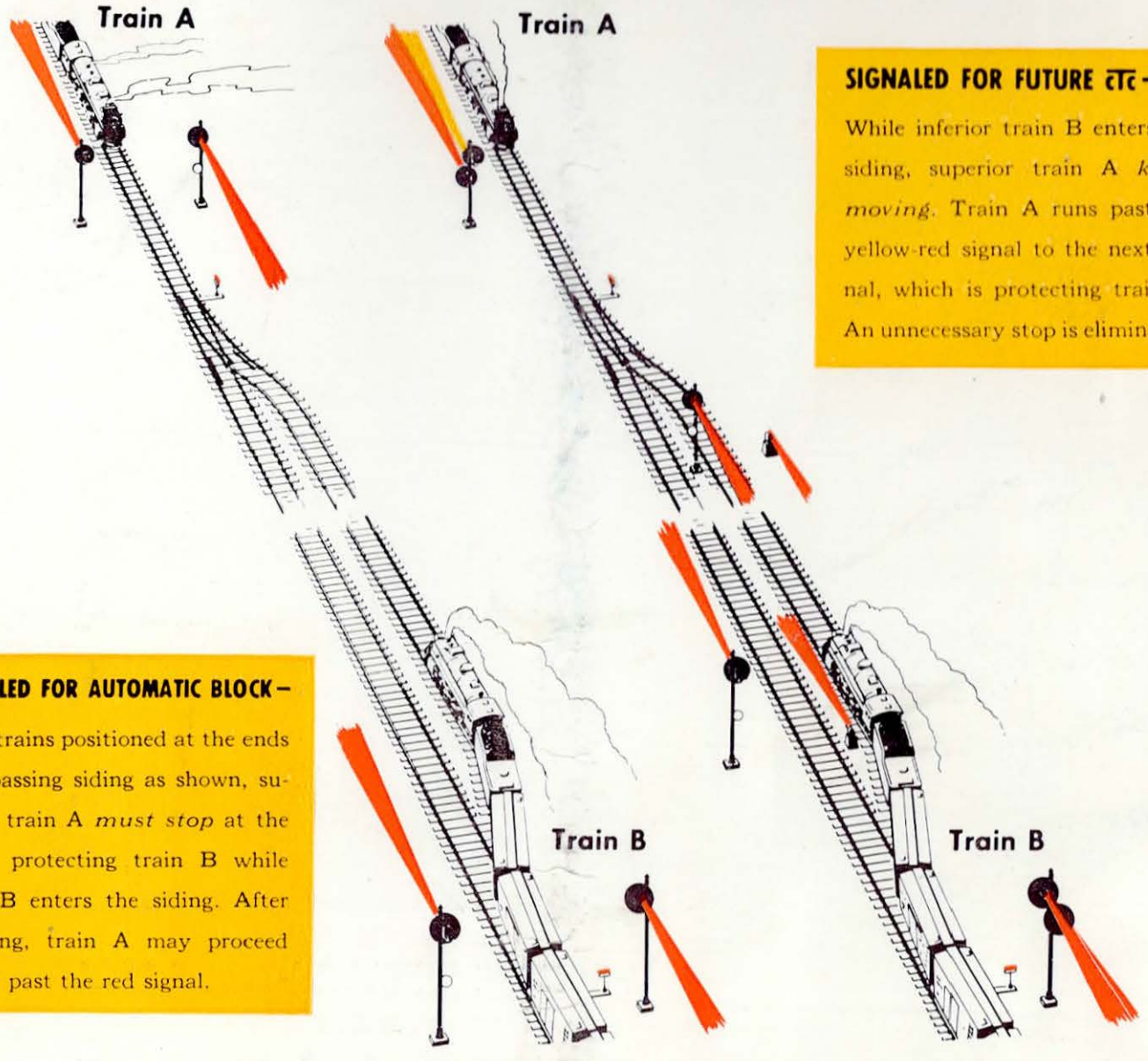

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